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TITLE: CONTINUING SUPPORT OF THE ASA STANDARDS PROGRAM

PRINCIPAL INVESTIGATOR: Avril Brenig, Ph.D.

CONTRACTING ORGANIZATION: Acoustical Society of America  
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**S3/368**

# MINUTES

# ACCREDITED STANDARDS COMMITTEE ON BIOACOUSTICS, S3

**U.S. TAG FOR ISO/TC 43, ACOUSTICS,  
IEC/TC 29 ELECTROACOUSTICS,  
AND  
ISO/TC 108/SC4 HUMAN EXPOSURE TO  
MECHANICAL  
VIBRATION AND SHOCK**

**20 May 1993**

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# ACOUSTICAL SOCIETY OF AMERICA

OFFICE OF THE  
STANDARDS SECRETARIAT

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S3/368

## MINUTES

ACCREDITED STANDARDS COMMITTEE ON BIOACOUSTICS, S3

U.S. TAG FOR ISO/TC 43, ACOUSTICS, IEC/TC 29 ELECTROACOUSTICS

and

ISO/TC 108/SC4 HUMAN EXPOSURE TO MECHANICAL VIBRATION AND SHOCK

Ottawa, Canada

20 May 1993

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The meeting was called to order by Ms. J.D. Royster, Chair S3, at 1:35 PM in Salon L'Orangerie, the Chateau Laurier, Ottawa, Canada.

### ORGANIZATIONAL MEMBERS PRESENT

Burkard, R.F.  
Brenig, A.  
Frank, T.

Mayer, M.S.  
Nixon, C.  
Nedzelitsky, V.

Royster, J.D.  
Toothman, E.H.

ASHA  
ASA Standards Manager  
Vice Chair; ASA alternate  
representative S3  
AT & T  
U.S. Air Force  
National Institute of Standards and  
Technology (NIST) (alternate for  
E.D. Burnett)  
Chair S3; ASA representative, S3  
Fastener Industry Noise Control  
Research Program (FINCRP)

INDIVIDUAL EXPERTS PRESENT

|                  |  |
|------------------|--|
| Eldred, K.M.     | Chair ASACOS                                   |
| Guernsey, R.M.   | R.M. Guernsey and Associates                   |
| Johnson, D.L.    | Chair S3/WG62; Chair S12                       |
| McKinley, R.     | Vice Chair S1; Chair S3/WG71                   |
| von Gierke, H.E. | U.S. TAG Chair, ISO/TC 43 and<br>ISO/TC 43/SC1 |
| Young, R.W.      | Consultant                                     |

OTHERS PRESENT

|                 |   |
|-----------------|---|
| Arrington, J.R. | U.S. Primary Standards Lab.   |
| Battenberg, P.  | Quest Technologies  |
| Blick, J.M.     | La Belle Industries   |
| Daigle, G.      | Chair S12/WG27  |
| Nyborg, W.L.    | U.S. TAG, IEC/TC 87 Ultrasonics   |
| Queen, D.       | Audio Engineering Society   |
| Ramussen, G.    | Electronica   |
| Royster, L.H.   | C.C. State University   |
| Schomer, P.D.   | Vice Chair S12; Vice Chair, U.S. TAG<br>for ISO/TC 43 and ISO/TC 43/SC1 |
| Seiler, J.P.    | Chair S1/WG21   |
| Wong, G.S.K.    | Chair S1  |

1. Approval of the Minutes of the New Orleans, Louisiana meeting, held on 3 November 1992 (S3/355).

Upon motion made and seconded, it was

VOTED to approve the Minutes of the S3 meeting (S3/355) held on 3 November 1992, as circulated.

2. Organization

- a) A list of current working groups is attached (see ATTACHMENT A).
- b) New working groups - None to date.
- c) Personnel changes - None to date.
- d) Work in progress - for a summary, see ATTACHMENT B.

3. Standards approved by ANSI in 1992/1993 and published (or being published) by ASA

The following standards were approved by ANSI and are published (or being published) by ASA:

- ANSI S3.42-1992 Testing Hearing Aids with a Broad-Band Noise Signal
- ANSI S3.43-1992 Standard Reference Zero for the Calibration of Pure-Tone Bone-Conduction Audiometers

Standards published by ASA can be ordered from the following address:

Professional Book Distributors (PBD)  
ASA Standards Distribution Center  
1650 Bluegrass Lakes Parkway  
Alpharetta, Georgia 30239

Telephone: (404) 442-8633  
Telefax: (404) 442-9742

NOTE: 20% discount on list price is available to ASA individual and sustaining members for all standards published by ASA.

4. Organizational matters and reports on working groups, including reports on letter ballots and international matters

a) S3/Advisory - Advisory Planning Committee to S3 - T. Frank, Chair

Mr. Frank prepared a detailed report at the last meeting (see ATTACHMENT C).  
(The list of current S3 standards is appended -ATTACHMENT D.)

b) S3/WG35 Audiometers - R.L. Grason, Chair

It was noted that there may be report on activities following the IEC/TC 29 working group meeting on audiometry, which Mr. Grason plans to attend.

The document IEC 645, Part 2, Equipment for speech audiometry Document IEC/TC 29(Central Office)157 was voted upon. Votes were 16 positive, 2 negative (U.S. and U.K.). Draft was revised but did not incorporate U.S. technical documents. The Draft has been submitted to the Secretariat for publication.

4. Organizational matters and reports on working groups, including reports on letter ballots and international matters (continued)

b) S3/WG35 Audiometers - R.L. Grason, Chair (continued)

The document IEC 645, Part 3, Specification of reference audiometric test signals of short duration, Document IEC/TC 29(Secretariat)192 has been circulated for comments. It is proposed that the revised document be recirculated to the National Committees for further comment. (The international Working Group expected to meet in April/May 1991.)

A draft is being prepared for IEC 645, Part 4, Equipment for extended high frequency audiometry.

The document ISO/DIS 8253-2, Audiometric test methods was circulated under six months' rule for vote. The U.S. voted positively but submitted comments.

Mr. Schomer said at the last meeting that the differences between the scopes of S3/WG35 and S3/WG78 were confusing. This would be looked into.

Ms. Royster also reminded Mr. Grason at the last meeting that ANSI S3.6-1989 will come up for 5 -year revision or reaffirmation soon. She said that it would be desirable, in the next revision, to include calibration values for insert earphones in the body of the standard (rather than the appendix) as well as to include corresponding values for bone vibrators. Mr. Grason agreed to begin work on the revision.

c) S3/WG36 Speech Intelligibility - L. Marshall, Chair

o Subgroup 2, J. Kreul

At the last meeting, Ms. Royster said that the preparation of a complete draft for ballot should be available before the next meeting (May 1993).

d) S3/WG37 Coupler Calibration of Earphones - B. Kruger, Chair

The revision of ANSI S3.7-1973 Method for Coupler Calibration of Earphones was sent to S3 ballot (LB/S3.7/352) on 8 September 1992. The ballot was closed on 20 October 1992, with results as given in last Minutes (S3/355). (The proposed standard was also sent to S1 for information and comment.)

Ms. Royster said that the working group was trying to resolve the negative comments received on this ballot.



4. Organizational matters and reports on working groups, including reports on letter ballots and international matters (continued)

- e) S3/WG39 (S2) - Human Exposure to Mechanical Vibration and Shock - H.E. von Gierke, Chair (Counterpart to ISO/TC 108/SC4)

The last meeting of ISO/TC 108/SC4 took place with ISO/TC 108 in London, U.K. from 29 March to 1 April 1993.

- f) S3/WG43 Method for Calibration of Bone Conduction Vibrator - T. Frank, Chair

ANSI S3.43-1992 Standard Reference Zero for the Calibration of Pure-Tone Bone-Conduction Audiometers was approved by ANSI on 8 May 1992 and published by ASA (see Section 3).

New chair, Mr. Frank, presented a report at the meeting (see ATTACHMENT E).

The recommendations to reaffirm ANSI S3.13-1987 American National Standard Coupler for Measurement of Bone Vibrators and to withdraw ANSI S3.26-1981 (R 1990) American National Standard Reference Equivalent Threshold Force Levels for Audiometric Bone Vibrators were sent to S3 ballot in due course. (See item 6(b), page 11 of these Minutes).

- g) S3/WG48 Hearing Aids - D.A. Preves, Chair

ANSI Standard S3.42-1992 Testing Hearing Aids with a Broad-Band Noise Signal was approved by ANSI on 2 June 1992 and published by ASA (see Section 3).

Ms. Royster read Mr. Preves' report at the meeting:

1. First draft of proposed revision of ANSI S3.22-1987 prepared and discussed in Phoenix.
2. Round-robin on induction coil measurements completed. New protocol to be inserted in ANSI S3.22-1987 revision.
3. Comments coordinated on IEC documents: proposed revision to 118-1 (hearing aids with induction pickup coil input) and for IEC TC 29 (Secr.) 255 Dimensions of electrical connectors for hearing aids.
4. Recommendations for an improved battery simulator are under consideration.

The working group last met on 14 April 1993 in Phoenix.

4. Organizational matters and reports on working groups, including reports on letter ballots and international matters (continued)

h) S3/WG56 Criteria for Background Noise for Audiometric Testing - T. Frank, Chair

ANSI S3.1-1991 the revision of ANSI S3.1-1977 (R 1986) Maximum Permissible Ambient Noise Levels for Audiometric Test Rooms was published by ASA.

Mr. Frank reported at the last meeting as follows:

ANSI S3.1-1991, Maximum Permissible Ambient Noise Levels for Audiometric Test Rooms.

The chair continues to monitor the literature and ISO standards, as well as conducting research, that would impact on the information presented in ANSI S3.1-1991. This information will be made available to WG members prior to a review of S3.1 for revision/reaffirmation in 1994/95.

The chair and two WG members (J. Durrant and J. Lovrinic) recently published an article in the American Journal of Audiology describing ANSI S3.1-1991. This was done to alert audiologists and ASHA members about the new standard.

i) S3/WG58 Hearing Conservation Criteria - D.L. Johnson and W. Melnick, Co-chairs

ISO 1999:1990 Acoustics-Determination of occupational noise exposure and estimation of noise-induced hearing impairment was published by ISO. The next step is to prepare the national version of this international standard.

The completed standard has now been submitted to S3 for ballot. No major differences currently exist between the proposed national version and the international standard, ISO 1999-1990. The ballot, LB/S3.44/357, draft dated October 1992, was submitted to S3 on 25 January 1993 and closed on 8 March 1993. The results are given in ATTACHMENT F.

At the meeting, Mr. Johnson said he saw no problem in resolving the negative votes and comments received on this ballot.

j) S3/WG59 Measurement of Speech Levels - H. Levitt, Chair

At the meeting, Ms. Royster reported that she had finally received a document for balloting from Mr. Levitt. It was hoped to prepare the document for S3 ballot shortly.

4. Organizational matters and reports on working groups, including reports on letter ballots and international matters (continued)

k) S3/WG60 Measurement of Acoustic Impedance and Admittance of the Ear - D. Lilly, Chair

This working group is preparing a revision of ANSI S3.39-1987.

At the meeting, Mr. Frank said that he had communicated with Mr. Lilly and that he (Mr. Lilly) expected to prepare a revision of this standard for ballot as quickly as possible.

l) S3/WG62 Impulse Noise with Respect to Hearing Hazard - D. Johnson, Chair

The draft ANSI Standard S3.28-1986 for the Evaluation of the Potential Effect on Human Hearing of Sounds with Peak A-Weighted Sound Pressure Levels Above 120 Decibels and Peak C-Weighted Sound Pressure Levels Below 140 Decibels was approved by S3 and published for trial, comment, and criticism for a period of three years (according to ANSI procedures).

Mr. Johnson has said that once the national counterpart to ISO 1999:1990 Acoustics - Determination of occupational noise exposure and estimation of noise-induced hearing impairment were to be approved by S3, then he would propose withdrawal of this document, Draft ANSI S3.28-1986 (with no action this would occur naturally).

m) S3/WG67 Manikins - M.D. Burkhard, Chair

This working group currently exists solely for response to international documents.

n) S3/WG/1 Artificial Mouths - R. McKinley, Chair

A first draft is expected in about three and one half years (i.e. by November 1995).

Mr. McKinley said his working group meet on Tuesday, 18 May 1993, had discussed some issues and was trying to get more information for a draft.

o) S2/WG72 Measurement of Auditory Evoked Potentials - R.A. Ruth, Chair

Mr. Ruth has (again) reported no change from his last report, as follows:

We have collected normative perceptual threshold data for two supra-aural earphones (TDH-39 and TDH-49) and one insert earphone (ER-3A).

4. Organizational matters and reports on working groups, including reports on letter ballots and international matters (continued)

o) S2/WG72 Measurement of Auditory Evoked Potentials - R.A. Ruth, Chair (continued)

We are currently in the process of summarizing this data for use in the standard. Once this task is finished, we hope to produce a semi-final draft of the standard for comment and criticism.

At the meeting, Mr. Burkard said the working group was trying to get together in person or via correspondence.

p) S3/WG73 Bioacoustical Terminology - W.J. Galloway, Chair

At the last meeting, Ms. Royster said that Mr. Guignard was stepping down as chair of this working group and that Mr. Galloway would take his place. Mr. Galloway said he would incorporate the S3 terminology into the S1 and S12 terminology (draft) standard he is currently preparing for ballot.

(Mr. Galloway asked those interested in sending him terminology to put this on a 3 1/2" disk in Wordperfect 5.1. This way, it could be included in the draft.)

At the meeting, it was reported that the first draft of the proposed terminology document, the revision of ANSI S1.1-1960, was circulated to S1 for ballot, and to S2, S3 and S12 for information and comment. The document was sent to S3 as S3/365, on 26 March 1993. The ballot was closed on 7 May 1993 with results as given in ATTACHMENT G.

q) S3/WG75 Auditory Masking - S. Buus, Chair

At the last meeting, Ms. Royster said that there should be a draft proposed by the time of the Denver meeting (Fall 1993).

r) S3/WG76 Computerized Audiometry - J. Franks, Chair

Ms. Royster said she would check into the status of this working group.

s) S3/WG77 High Frequency Audiometry - J. Fletcher, Chair

Mr. Fletcher reported prior to the meeting as follows:

Consideration is being given 1. to formulate a standard without calibration data, and 2. to perform the study necessary to provide calibration data.

The working group next plans to meet in Denver in October 1993.

4. Organizational matters and reports on working groups, including reports on letter ballots and international matters (continued)

t) S3/WG78 Thresholds - W. Yost, Chair

The scope of this working group is to provide a liaison with ISO, IEC and other national working groups for standards dealing with auditory thresholds and procedures to measure these threshold. No meetings are planned.

u) S3/WG79 Calculation of the Articulation Index (Revision of ANSI S3.5-1969 (R 1986)) - C.V. Pavlovic, Chair

Mr. Pavlovic reported prior to the meeting that the first draft revision of ANSI S3.5-1969 should be available for ballot by the time of May 1993 the meeting.

NOTE: ASA Standards Secretariat has received a document for S3 ballot (July 1993).

v) S3/WG80 Probe Tube Measurements of Hearing Aid Performance - W. Cole, Chair

Ms. Royster said she had received a report from Mr. Cole, (see ATTACHMENT H).

w) S3/WG81 Assistive Listening Devices - R. Kasten, Chair; M Wynne, Vice Chair

At the last meeting, Ms. Royster said that S3/WG81 expected to meet at ASHA in San Antonio (mid-November 1992).

x) S3/WG82 Basic Vestibular Function Test Battery - C. Wall III, Chair

Ms. Royster said she would check into progress on this working group.

S3 LIAISON WORKING GROUPS

a) S3/TAG Liaison to IEC/TC 87 Ultrasonics - W. Nyborg, Chair

Mr. Nyborg reported prior to the meeting (see ATTACHMENT I).

## 5. International Matters

### a) International Electrotechnical Commission (IEC)

#### (i) IEC/TC 29 Electroacoustics - V. Nedzelnitsky, Technical Advisor

A list of documents submitted to the U.S. for vote and/or comment is given in ATTACHMENT J.

Mr. Nedzelnitsky's report is also attached ATTACHMENT K. The next meeting of IEC/TC 29 will be held from 24-29 May 1993, in Oslo, Norway.

#### (ii) Liaison with IEC/TC 87 Ultrasonics - P.D. Edmonds, U.S. Technical Advisor

Please see ATTACHMENT I for Mr. Nyborg's report.

### b) International Organization for Standardization (ISO)

#### (i) ISO/TC 43 Acoustics and ISO/TC 43/SC1 Noise - H.E. von Gierke, TAG Chair

A report has been prepared (see ATTACHMENT L). Mr. Schomer's report is given in ATTACHMENT M. The next meeting will be held from 31 May to 4 June 1993, in Oslo, Norway.

At the last meeting, Mr. Schomer detailed the numerous international documents being reviewed and noted his plan to establish regional coordinators for the major areas (counterpart to the national groups). This was considered a good idea for each of the S Committees to consider.

Mr. von Gierke noted that there be a very good delegation (14 people) going to Oslo for the meetings. Mr. Schomer spoke of the numerous documents being processed by ISO/TC 43 and ISO/TC 43/SC1, with the U.S. Member Body receiving some sixty (60) documents per year from these groups, mostly from TC 43/SC1.

#### (ii) ISO/TC 108/SC4 Human Exposure to Mechanical Vibration and Shock - H.E. von Gierke, TAG Chair

A report on the overall activities of ISO/TC 108 (including ISO/TC 108/SC4) is given in ATTACHMENT N.

The last meeting of ISO/TC 108/SC4 was held from 29 March to 1 April 1993, in London, U.K.

5. International Matters (continued)b) International Organization for Standardization (ISO) (continued)(ii) ISO/TC 108/SC4 Human Exposure to Mechanical Vibration and Shock -  
H.E. von Gierke, TAG Chair (continued)

Mr. von Gierke reported on a most successful TC 108/SC4 meeting, with seven (7) U.S. delegates in attendance and seven (7) documents reaching the DIS stage of development. On the other hand, he noted that the counterpart national working group, S3/WG39, had had a meeting with almost no participation, due primarily to the fact that most activity was occurring at the international level.

Mr. von Gierke said that a way should be found to convert the ISO standards to national standards, and that this idea would be explored with ANSI. He noted that there were several options to be explored with ANSI in the matter of adopting international standards for national usage. (See also, New Business, Item 10 (a) page 14 of these Minutes.)

6. Review of Standards more than five years in existence

Section 4.4 of the ANSI Procedures for the Development and Coordination of American National Standards requires that each complete American National Standard (including its supplements and addenda) be reviewed at least every five years to determine whether it should be reaffirmed, revised or withdrawn.

Provision is made for extensions of time, except that no extension is granted beyond ten years from the date of approval by ANSI.

- a) It should be noted, with respect to ANSI S3.19-1974 (R 1979), that ASACOS decided at its meeting held on 21 May 1990, to continue this standard under S3 jurisdiction, with its S3 designation, until such time as it is revised. Once revised, it will assume an S12 designation, under the jurisdiction of Accredited Standards Committee S12, Noise.

- b) Recommendations were made previously to reaffirm the following S2 standards:

- (i) ANSI S3.13-1987  
American National Standard Mechanical Coupler for Measurement of Bone Vibrators  
Recommending Group: T. Frank, Chair S3/WG43

6. Review of Standards more than five years in existence (continued)

b) Recommendations were made previously to reaffirm the following S2 standards (continued)

(ii) ANSI S3.18-1979

American National Standard Guide for the Evaluation of Human Exposure to Whole-Body Vibration

Recommending Group: H.E. von Gierke, Chair S3/WG39 (S2)

These were sent to S3 ballot (LB/S3/359) on 29 January 1993. The ballot was closed on 12 March 1993, with results as given in ATTACHMENT O. Following this ballot (and inclusion of ANSI S3.26-1981 (R 1990), a ballot to withdraw this standard (ANSI S3.26-1981) American National Standard Reference Equivalent Threshold Force Levels for Audiometric Bone Vibrators, was circulated to S3 (LB/S3/366) on 24 March 1993. The ballot was closed on 5 May 1993, with results as given in ATTACHMENT P.

Accordingly, the recommendations to reaffirm these standards ANSI S3.13-1987 and S3.18-1979, and to withdraw ANSI S3.26-1981 were submitted to ANSI on 22 April 1993.

7. New International Standards Available From ANSI

- ISO 8253-2 Acoustics - Audiometric Test Methods - Part 2 - Sound Field Audiometry with pure tone and narrow-band test signals
- IEC 118-2 Amendment 1 - 1993 Hearing Aids - Part 2 - Hearing Aids with automatic gain control circuits

8. Procedural Ballots

a) Following discussion at the last meeting, it was recommended that the following four (4) standards be recommended for reaffirmation:

- ANSI S3.21-1978 (R 1986) Method for manual pure-tone threshold audiometry
- ANSI S3.34-1986 Guide for the measurement and evaluation of human exposure to vibration transmitted to the hand



8. Procedural Ballots (continued)

- ANSI S3.37-1987 Preferred earhook nozzle thread for postauricular hearing aids
- ANSI S3.4-1980 (R 1986) Procedure for the computation of loudness of noise

Accordingly, a letter ballot (LB/S3/342) was circulated to S3 on 18 February 1992. The ballot was closed on 1 April 1992 with results as given in the last Minutes (S3/344). With the results of the ballot unanimously affirmative, the respective recommendations for reaffirmation were formally forwarded to ANSI.

The reaffirmations were sent to ANSI's Public Comment on 10 July 1992 and to ANSI for formal approval following the close of the public comment period, on 2 September 1992. ANSI officially reaffirmed the above standards on 26 October 1992.

- b) According to ANSI's procedures, under which the Accredited Standards Committees operate, the Officers of the Standards Committees are to be confirmed (at the beginning of their terms), as well as Individual Experts (the latter to be confirmed annually) by the respective Standards Committees.

The Officers and Individual Experts are proposed by the ASA Committee on Standards (ASACOS), as the Secretariat for the Standards Committees, in connection with the Chairs of the respective Standards Committees.

A Letter Ballot was circulated to S3 on the proposed appointments for 1993/1994, (LB/S3/356) on 18 December 1992. The ballot was closed on 29 January 1993 with results as given in ATTACHMENT Q. The nominations were approved unanimously and the respective appointments will therefore take effect following the May 1993 meeting of ASA.

9. Other Business

- a) Project Initiation Notification System (PINS) forms requested by ANSI

The Standards Secretariat has provided ANSI, with a current list of S3 projects for use under ANSI's Project Initiation Notification System (PINS). These are expected to be tabulated in a computerized system eventually by ANSI.

- b) The following standard was officially withdrawn by ANSI on 16 October 1993, since it was replaced by ANSI S12.23-1989 Method for the Designation of Sound Power Emitted by Machinery and Equipment.

ANSI S3.17-1975 (R 1980) Method for rating the Sound Power Spectra of small Stationary Noise Sources

10. New Business

(a) Ms. Royster said that EDITORIAL COMMITTEES would be formed in S3 to convert the ISO standards into ANSI standards. Mr. Eldred said that the list of ISO and IEC standards would be looked at by each of the S Committee Chairs and Vice Chairs, to see which would be suitable candidate standards for conversion.

(b) Mr. Seiler brought up a subject related to his working group (S1/WG21 on Electromagnetic Susceptibility of Acoustical Instruments). He wanted to know whether AUDIOMETERS should be covered under the standard his working group was developing. Mr. Seiler referred to a portion of a letter sent to him by Mr. D. Stevens of Lucas Industrial Instruments on 13 April 1993 (see ATTACHMENT R).

It was decided that Ms. Royster will ask the chairs of the working group on Audiometers and on Auditory Evoked Potentials, respectively, to address this matter with Mr. Seiler's working group (S1/WG21) at an appropriate time and to report back to S3.

(c) Mr. Nedzelnistky said that some more direct and formal liaison should be developed with OIML (Organization de Metrologies Legale) since Mr. Sam Chappell of NIST had established coordinating positions in OIML (which is a treaty organization) and was interested in developing standards and making the IEC and ISO standards the basis for OIML work. This would place legal obligations on treaty members, and will be explored.

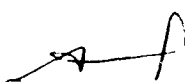
(d) Ms. Royster noted that a new work item was proposed for S3 ballot on the subject of SOUND FIELD AUDIOMETRY. (see ATTACHMENT S). This will be prepared for S3 ballot in due course.

11. Future Meetings

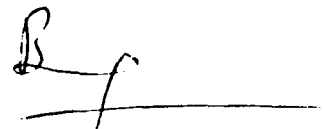
The next meeting of S3 will be held on Thursday, 7 October 1993, in Denver, Colorado, commencing at 3:00 PM.

12. Adjournment

The meeting was adjourned at 2.45 P.M.



Avril Brenig  
Standards Manager





# ACOUSTICAL SOCIETY OF AMERICA

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STANDARDS SECRETARIAT

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ATTACHMENT A-1  
S3/368

## ACCREDITED STANDARDS COMMITTEE ON BIOACOUSTICS - S3

SECRETARIAT: Acoustical Society of America

SCOPE: Standards, specifications, methods of measurement and test, and terminology in the fields of mechanical shock and physiological acoustics, including aspects of general acoustics, shock, and vibration which pertain to biological safety, tolerance and comfort.

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| <u>WORKING GROUP</u> | <u>TITLE AND SCOPE</u>   | <u>CHAIR</u>    |
|----------------------|--|-----------------|
| (a) S3/Advisory      | <p><u>S3 Advisory Planning Committee</u> - Be cognizant of standards needs within the scope of the Committee, and organize those needs in accordance with priority, and other relevant factors, into a coherent three year plan for Committee activity. This three year plan for the preparation of standards should include those which need updating, having regard to the international work items and standards, and the need for timely review (reaffirmations, revisions, withdrawals, etc.) of all national standards, and the priority of new standards needs.</p> <p>The plan of action should be developed with attention to (i) the overall Committee scope, (ii) its technological needs, (iii) the relation of national to international standardization, (iv) the rate of development of new standards, and (v) the timeliness of the preparation of revisions of standards.</p> | <u>T. Frank</u> |

| <u>WORKING GROUP</u> | <u>TITLE AND SCOPE</u>  | <u>CHAIR</u>           |
|----------------------|---|------------------------|
| (b) S3/WG35          | <u>Audiometers (counterpart to IEC/TC 29/WG10, ISO/TC 43/WG1 and ISO/TC 43/WG3)</u> - To review IEC and ISO documents concerning audiometers.   | <u>R.L. Grason</u>     |
| (c) S3/WG36          | <u>Speech Intelligibility</u> - Preparation of recommended methods for the measurement of the intelligibility of speech as affected by spectral, amplitude and temporal distortions of the speech signals, and by noises that arise from or in the acoustical, electrical (if any) and ear receptor paths used for transmitting speech from the talker to the listener.   | <u>L. Marshall</u>     |
| S3/WG36<br>(SG-2)    | <u>Subgroup 2 - Speech Audiometry</u> - Standardization of speech and audiometry procedures; speech discrimination tests for clinical and diagnostic use.   | <u>J. Kruel</u>        |
| (d) S3/WG37          | <u>Coupler Calibration of Earphones (counterpart to IEC/TC 29/WG3)</u> - Coordinate ANSI projects with IEC working groups. Prepare revisions to existing earphone calibration standards, prepare new standards for circumaural earphones, study and prepare standards for simulation of the human ear for measurement purposes.   | <u>B. Kruger</u>       |
| (e) S3/WG39 (S2)     | <u>Human Exposure to Mechanical Vibration and Shock (counterpart to ISO/TC 108/SC4)</u> - Standardization in the field of shock, vibration and related biodynamic environments with regard to health, safety, performance and comfort criteria and guidelines regarding the effects of occupational and non-occupational exposures on the human population (environments of primary interest are: vibration, rotational oscillations, shock and impact transmitted to the whole-body or parts thereof). Preparation of standard terminology and characterization of the biodynamic properties of humans with and without support and restraint devices by means of biodynamic models or analogues is also included as a basis for the description of the physical, behavioral and physiological effects of the mechanical environments under consideration. | <u>H.E. von Gierke</u> |
| (f) S3/WG43          | <u>Method for Calibration of Bone Conduction Vibrator</u> - (a) U.S. standards on audiometric bone vibration calibration; (b) review of related international standards.  | <u>T. Frank</u>        |
| (g) S3/WG48          | <u>Hearing Aids</u> - (a) all aspects of hearing aid measurement except couplers; (b) review of related international documents.  | <u>D.A. Preves</u>     |

| <u>WORKING GROUP</u> | <u>TITLE AND SCOPE</u>  | <u>CHAIR</u>                                      |
|----------------------|---|---|
| (h) S3/WG56          | <u>Criteria for Background Noise for Audiometric Testing</u> - To establish maximum tolerable background noise levels during audiometric tests (revision of S3.1-1977 Criteria for Permissible Ambient Noise During Audiometer Testing).  | <u>T. Frank</u>                                   |
| (i) S3/WG58          | <u>Hearing Conservation Criteria (counterpart to ISO/TC 43/SC1/WG19 (ISO 1999))</u> - To determine hearing conservation criteria.   | <u>D.L. Johnson/<br/>W. Melnick<br/>Co-chairs</u> |
| (j) S3/WG59          | <u>Measurement of Speech Levels</u> - To develop a standard method for measurement of speech and speech-to-noise ratios in technical reports and equipment specifications. The standard should provide the best measurement of speech levels and indicate the number of samples, weighting (overall vs. A-level) and total length of speech sample. In addition, approximations may be suggested to determine speech for simple sound level meter observations. The standard would not consider microphone type, placement or other specification for the physical measurement of speech, but would concentrate on assessment after the speech is in recorded form. | <u>H. Levitt</u>                                  |
| (k) S3/WG60          | <u>Measurement of Acoustic Impedance and Admittance of the Ear</u> - The measurement of acoustic immittance (acoustic impedance or acoustic admittance) within the human external auditory canal. The measurements are to ensure that acoustic-immittance measurements will be substantially the same for a given individual when these measurements are obtained with any instruments that meet the specifications and tolerance outlined in a standard, and when comparable test conditions prevail.  | <u>D. Lilly</u>                                   |
| (l) S3/WG62          | <u>Impulse Noise with Respect to Hearing Hazard</u> - To develop criteria for predicting the changes in hearing due to human exposure to impulsive noise.   | <u>D. Johnson</u>                                 |

| <u>WORKING GROUP</u> | <u>TITLE AND SCOPE</u>   | <u>CHAIR</u>         |
|----------------------|--|----------------------|
| (m) S3/WG67          | <u>Manikins</u> - (counterpart to IEC/TC 29/WG13) - To prepare a standard describing a device that simulates a person for acoustic measurements. Monitor and coordinate with international standards.  | <u>M. Burkhard</u>   |
| (n) S3/WG71          | <u>Artificial Mouths</u> - To develop a standard specification for sound sources used as artificial mouths to measure the performance of microphones positioned close to the talker.   | <u>R.L. McKinley</u> |
| (o) S3/WG72          | <u>Measurement of Auditory Evoked Potentials</u> - To draft a standard dealing with the instrumentation and methods of calibration associated with the measurements of auditory evoked potentials.   | <u>R.A. Ruth</u>     |
| (p) S3/WG73          | <u>Bioacoustical Terminology</u> - To prepare a draft standard on bioacoustical terminology to supersede ANSI S3.20-1973.  | <u>W.J. Galloway</u> |
| (q) S3/WG75          | <u>Auditory Masking</u> - To define a psychological frequency scale and auditory filter characteristics. These definitions permit calculation of detection threshold for a signal in the presence of noise. The listeners are assumed to have normal hearing and the noise to be continuous in the time and frequency domains. | <u>S. Buus</u>       |
| (r) S3/WG76          | <u>Computerized Audiometry</u> - Standardization of computer applications to audiometry, including automated psychophysical procedures.  | <u>J. Franks</u>     |
| (s) S3/WG77          | <u>High Frequency Audiometry</u> - Development of standards for high frequency audiometers in the frequency range of 8,000 to 20,000 Hz. Coordination with ISO working groups with similar scopes.   | <u>J. Fletcher</u>   |
| (t) S3/WG78          | <u>Thresholds</u> - To provide a liaison with ISO, IEC and other national working groups for standards dealing with auditory thresholds and procedures to measure these thresholds.  | <u>W. Yost</u>       |

| <u>WORKING GROUP</u> | <u>TITLE AND SCOPE</u>  | <u>CHAIR</u>  |
|----------------------|---|---|
| (u) S3/WG79          | <u>Calculation of the Articulation Index</u> - To consider revision of the current standard on calculation of the articulation index: ANSI S3.5-1969 (R 1986).  | <u>C.V. Pavlovic</u>                                |
| (v) S3/WG80          | <u>Probe-tube Measurements of Hearing Aid Performance</u> - To develop standards for the determination of the real ear electroacoustic performance of hearing aids in situ.   | <u>W. Cole</u>                                      |
| (w) S3/WG81          | <u>Assistive Listening Devices</u> - To provide definitions for various types of assistive listening devices. To determine which assistive listening devices can be measured acoustically and to provide standard procedures for such acoustical measurement.         | <u>R. Kasten</u><br><u>M. Wynne</u> ,<br>Vice Chair |
| (x) S3/WG82          | <u>Basic Vestibular Function Test Battery</u><br>Standardization of a basic vestibular function test battery consisting of six separate tests: spontaneous nystagmus, gaze-evoked nystagmus, saccade test, pursuit testing, positional nystagmus and caloric testing. | <u>C. Wall III</u>                                  |

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S3 LIAISON WORKING GROUPS

|           |  |                 |
|-----------|--|-----------------|
| a) S3/L-1 | <u>S3 TAG Liaison to IEC/TC 87 Ultrasonics</u> -<br>To provide liaison on documents and activities emanating from IEC/TC 87 Ultrasonics. | <u>W.Nyborg</u> |
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ATTACHMENT B-1  
S3/368

STATUS REPORT

FIELD: STATUS: BIOACOUSTICS

COMMITTEE: S3

| DESIGNATION/<br>EDITION   | SUBJECT OR TITLE   | STATUS | ACTIVITY | METHOD | COMMENTS OR<br>EXPECTED DATE<br>OF SUBMISSION<br>TO ANSI |
|---|--|--------|----------|--------|--|
| S3.1-1991   | Maximum Permissible Ambient Noise Levels for<br>Audiometric Test Rooms (A revision of<br>S3.1-1977 (R 1986)) (S3/WG56) | UD     |          |        |  |
| S3.2-1989   | Monosyllabic Word Intelligibility, Method for<br>Measurement (S3/WG36) (Revision of ANSI S3.2-1960)                    | UD     |          | S      |  |
| S3.3-1960<br>(R 1990)   | Electroacoustical Characteristics of Hearing<br>Aids, Methods for Measurement (S3/WG48)                                | RV     |          | S      |  |
| S3.4-1980<br>(R 1992)   | Procedure for the Computation of Loudness of Noise   | RV     |          | S      |  |
| S3.5-1969<br>(R 1986)   | Articulation Index, Methods for the Calculation<br>of the (S3/WG79)  | RV     | 1        | S      |  |
| <div> <div> STATUS </div> <div> NS - NEW STD IN PROCESS<br/>RF - REAFFIRMATION IN PROC.<br/>RV - REVISION IN PROCESS<br/>WD - WITHDRAWAL IN PROCESS<br/>ES - ENVIRONMENTAL SOUND<br/>SP - SUBMITTED PINS FORM </div> </div> <div> <div> ACTIVITY </div> <div> NR - NEEDS REVIEW<br/>AP - ANSI APPROVED<br/>OP - OUT OF PRINT<br/>NA - NOT YET AVAIL.<br/>UD - UP TO-DATE </div> </div> <div> <div> METHOD </div> <div> C-ACCREDITED CANVASS<br/>O-ACCREDITED ORGANIZATION<br/>S-ACCREDITED STDS COMMITTEE<br/>X-NOT INTENDED FOR ANSI </div> </div> |  |        |          |        |  |



ATTACHMENT B-2  
S3/368

STATUS REPORT

FIELD: STATUS: BIOACOUSTICS

COMMITTEE: S3

| DESIGNATION/<br>EDITION   | SUBJECT OR TITLE   | STATUS                 | ACTIVITY                        | METHOD                         | COMMENTS OR<br>EXPECTED DATE<br>OF SUBMISSION<br>TO ANSI |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
|---|--|------------------------|---------------------------------|--------------------------------|--|--------|--|----------|--|--------|--|-------------------------|-------------------|----------|---------------------------|------------------------|--|-----------------------------|--------------------|---------------------|---------------------------------|-----------------------------|--|--------------------------|-------------------|-----------------------|-------------------------------|--------------------------------|--|----------------------------|---------------------|------------------------|--|---------------------------|--|--------------------------|-----------------|--|--|--|--|--------------------------|--|--|--|--|--|
| S3.6-1989   | Specification for Audiometers (revision<br>ANSI S3.6-1969) (S3/WG35) | UD                     |                                 | S                              |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| S3.7-1973<br>(R 1986)   | Coupler Calibration of Earphones, Method<br>for (S3/WG37)            | RV;ES                  |                                 | S                              |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| S3.8-1967<br>(R 1976)   | Hearing Aid Performance, Method of<br>Expressing (S3/WG48)           | WD                     |                                 | S                              | Withdrawn; super-<br>seded by S3.22-1982                 |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| S3.9  | DESIGNATION OPEN   |                        |                                 | S                              |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| S3.10   | Permissible Noise Exposure for Hearing<br>Conservation (S3/WG58)     | SP                     | 2                               | S                              |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| S3.12   | Speech Level Measurement of Bone Vibrators<br>(S3/WG36)              | SP;UD                  |                                 | S                              |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| <table> <tr> <th colspan="2">STATUS</th><th colspan="2">ACTIVITY</th><th colspan="2">METHOD</th></tr> <tr> <td>NS - NEW STD IN PROCESS</td><td>NR - NEEDS REVIEW</td><td>0 - NONE</td><td>4 - ANSI STANDARDS ACTION</td><td>C - ACCREDITED CANVASS</td><td></td></tr> <tr> <td>RF - REAFFIRMATION IN PROC.</td><td>AP - ANSI APPROVED</td><td>1 - FORMATIVE STAGE</td><td>5 - OBJECTIONS BEING CONSIDERED</td><td>O - ACCREDITED ORGANIZATION</td><td></td></tr> <tr> <td>RV - REVISION IN PROCESS</td><td>OP - OUT OF PRINT</td><td>2 - DRAFTING STANDARD</td><td>6 - ANSI CONSIDERING APPROVAL</td><td>S - ACCREDITED STDS. COMMITTEE</td><td></td></tr> <tr> <td>WD - WITHDRAWAL IN PROCESS</td><td>NA - NOT YET AVAIL.</td><td>3 - VOTING ON PROPOSAL</td><td></td><td>X - NOT INTENDED FOR ANSI</td><td></td></tr> <tr> <td>ES - ENVIRONMENTAL SOUND</td><td>UD - UP-TO-DATE</td><td></td><td></td><td></td><td></td></tr> <tr> <td>SP - SUBMITTED PINS FORM</td><td></td><td></td><td></td><td></td><td></td></tr> </table> |  |                        |                                 |                                |  | STATUS |  | ACTIVITY |  | METHOD |  | NS - NEW STD IN PROCESS | NR - NEEDS REVIEW | 0 - NONE | 4 - ANSI STANDARDS ACTION | C - ACCREDITED CANVASS |  | RF - REAFFIRMATION IN PROC. | AP - ANSI APPROVED | 1 - FORMATIVE STAGE | 5 - OBJECTIONS BEING CONSIDERED | O - ACCREDITED ORGANIZATION |  | RV - REVISION IN PROCESS | OP - OUT OF PRINT | 2 - DRAFTING STANDARD | 6 - ANSI CONSIDERING APPROVAL | S - ACCREDITED STDS. COMMITTEE |  | WD - WITHDRAWAL IN PROCESS | NA - NOT YET AVAIL. | 3 - VOTING ON PROPOSAL |  | X - NOT INTENDED FOR ANSI |  | ES - ENVIRONMENTAL SOUND | UD - UP-TO-DATE |  |  |  |  | SP - SUBMITTED PINS FORM |  |  |  |  |  |
| STATUS  |  | ACTIVITY               |                                 | METHOD                         |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| NS - NEW STD IN PROCESS   | NR - NEEDS REVIEW  | 0 - NONE               | 4 - ANSI STANDARDS ACTION       | C - ACCREDITED CANVASS         |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| RF - REAFFIRMATION IN PROC.   | AP - ANSI APPROVED   | 1 - FORMATIVE STAGE    | 5 - OBJECTIONS BEING CONSIDERED | O - ACCREDITED ORGANIZATION    |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| RV - REVISION IN PROCESS  | OP - OUT OF PRINT  | 2 - DRAFTING STANDARD  | 6 - ANSI CONSIDERING APPROVAL   | S - ACCREDITED STDS. COMMITTEE |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| WD - WITHDRAWAL IN PROCESS  | NA - NOT YET AVAIL.  | 3 - VOTING ON PROPOSAL |                                 | X - NOT INTENDED FOR ANSI      |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| ES - ENVIRONMENTAL SOUND  | UD - UP-TO-DATE  |                        |                                 |                                |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| SP - SUBMITTED PINS FORM  |  |                        |                                 |                                |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |

ATTACHMENT B-3  
S3/368

STATUS REPORT

FIELD: STATUS: BIOACOUSTICS

COMMITTEE: S3

| DESIGNATION/<br>EDITION  | SUBJECT OR TITLE  | STATUS                 | ACTIVITY                        | METHOD                         | COMMENTS OR<br>EXPECTED DATE<br>OF SUBMISSION<br>TO ANSI |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
|--|---|------------------------|---------------------------------|--------------------------------|--|--------|--|----------|--|--------|--|-------------------------|-------------------|----------|---------------------------|------------------------|--|-----------------------------|--------------------|---------------------|---------------------------------|-----------------------------|--|--------------------------|-------------------|-----------------------|-------------------------------|--------------------------------|--|----------------------------|---------------------|------------------------|--|---------------------------|--|--------------------------|-----------------|--|--|--|--|--------------------------|--|--|--|--|--|
| S3.13-1987   | Human Exposure to Whole-Body Vibration,<br>Guide for the Evaluation (S3/WG39 (S2))  | UD                     |                                 | S                              |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| S3.19-1974<br>(R 1990)   | Method for the Measurement of Real-Ear<br>Protection of Hearing Protectors and<br>Physical Attenuation of Earmuffs (see also under<br>S12/WG10--partially revised by ANSI S12.6-1984) | RV                     | 1                               | S                              | See also under<br>S12                                    |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| S3.20-1973   | Psychoacoustical Terminology (S3/WG73)  | RV                     |                                 | S                              |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| S3.21-1978<br>(R 1992)   | Manual Pure-Tone Threshold Audiometry,<br>Method for (S3/WG35)  |                        | UD;ES                           | S                              |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| S3.22-1987   | Specification of Hearing Aid Characteristics<br>(revision of S3.22-1982) (S3/WG48)  | UD                     |                                 | S                              |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
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| STATUS   |   | ACTIVITY               |                                 | METHOD                         |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| NS - NEW STD IN PROCESS  | NR - NEEDS REVIEW   | 0 - NONE               | 4 - ANSI STANDARDS ACTION       | C - ACCREDITED CANVASS         |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| RF - REAFFIRMATION IN PROC.  | AP - ANSI APPROVED  | 1 - FORMATIVE STAGE    | 5 - OBJECTIONS BEING CONSIDERED | O - ACCREDITED ORGANIZATION    |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| RV - REVISION IN PROCESS   | OP - OUT OF PRINT   | 2 - DRAFTING STANDARD  | 6 - ANSI CONSIDERING APPROVAL   | S - ACCREDITED STDS. COMMITTEE |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| WD - WITHDRAWAL IN PROCESS   | NA - NOT YET AVAIL.   | 3 - VOTING ON PROPOSAL |                                 | X - NOT INTENDED FOR ANSI      |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| ES - ENVIRONMENTAL SOUND   | UD - UP-TO-DATE   |                        |                                 |                                |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| SP - SUBMITTED PINS FORM   |   |                        |                                 |                                |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |

# STATUS REPORT

FIELD:

STATUS:

**BIOACOUSTICS**

COMMITTEE:

35

| DESIGNATION/<br>EDITION   | SUBJECT OR TITLE   | STATUS                 | COMMENTS OR<br>EXPECTED DATE    |                                | OF SUBMISSION<br>TO ANSI   |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
|---|--|------------------------|---------------------------------|--------------------------------|--|--------|--|----------|--|--------|--|-------------------------|-------------------|----------|---------------------------|------------------------|--|-----------------------------|--------------------|---------------------|---------------------------------|-----------------------------|--|--------------------------|-------------------|-----------------------|-------------------------------|--------------------------------|--|----------------------------|---------------------|------------------------|--|---------------------------|--|--------------------------|-----------------|--|--|--|--|--------------------------|--|--|--|--|--|
|   |  |                        | ACTIVITY                        | METHOD                         |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| S3.25-1989  | Occluded Ear Simulator (revision of ANSI S3.25-1979) (S3/WG37)   | UD                     |                                 | S                              |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| S3.26-1981<br>(R 1990)  | Reference Equivalent Threshold Force Levels for Audiometric Bone Vibrators   | UD                     |                                 | S                              |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| DRAFT ANSI<br>S3.28-1986  | Methods for the Evaluation of the Potential Effects on Human Hearing of Sounds with Peak A-Weighted Sound Pressure Levels Above 120 Decibels and Peak C-Weighted Sound Pressure Below 140 Decibels (S3/WG62) | UD                     | 5                               | S                              | Published for trial, comment and criticism for a period of three years |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| S3.29-1983<br>(R 1990)  | Evaluation of Human Exposure to Vibration in Buildings (S3/WG39 (S2))  | NA                     |                                 |                                |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
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| STATUS  |  | ACTIVITY               |                                 | METHOD                         |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| NS - NEW STD IN PROCESS   | NR - NEEDS REVIEW  | 0 - NONE               | 4 - ANSI STANDARDS ACTION       | C - ACCREDITED CANVASS         |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| RF - REAFFIRMATION IN PROG.   | AP - ANSI APPROVED   | 1 - FORMATIVE STAGE    | 5 - OBJECTIONS BEING CONSIDERED | O - ACCREDITED ORGANIZATION    |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| RV - REVISION IN PROCESS  | OP - OUT OF PRINT  | 2 - DRAFTING STANDARD  | 6 - ANSI CONSIDERING APPROVAL   | S - ACCREDITED STDS. COMMITTEE |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| WD - WITHDRAWAL IN PROCESS  | NA - NOT YET AVAIL.  | 3 - VOTING ON PROPOSAL |                                 | X - NOT INTENDED FOR ANSI      |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| ES - ENVIRONMENTAL SOUND  | UD - UP-TO-DATE  |                        |                                 |                                |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| SP - SUBMITTED PINS FORM  |  |                        |                                 |                                |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |

ATTACHMENT B-5  
S3/368

STATUS REPORT

FIELD: STATUS: BIOACOUSTICS

COMMITTEE: S3

| DESIGNATION/<br>EDITION  | SUBJECT OR TITLE  | STATUS   | ACTIVITY | METHOD   | COMMENTS OR<br>EXPECTED DATE<br>OF SUBMISSION<br>TO ANSI |
|--|---|--|----------|--|--|
| S3.31  | Determining the Threshold Level for Speech, Method for (S3/WG36/Subgroup 1)   | NS;SP  | 2        | S  |  |
| S3.32-1982<br>(R 1990)   | Mechanical Vibration and Shock Affecting Man-<br>Vocabulary - ISO 5805-1981 (S3/WG39(S2))                           | UD   |          | S  |  |
| S3.34-1986<br>(R 1992)   | Guide for the Measurement and Evaluation of<br>Human Exposure to Vibration Transmitted to<br>the Hand (S3/WG39(S2)) | UD   |          | S  |  |
| STATUS   |   | ACTIVITY   |          | METHOD   |  |
| NS - NEW STD IN PROCESS<br>RF - REAFFIRMATION IN PROC.<br>RV - REVISION IN PROCESS<br>WD - WITHDRAWAL IN PROCESS<br>ES - ENVIRONMENTAL SOUND<br>SP - SUBMITTED PINS FORM |   | NR - NEEDS REVIEW<br>AP - ANSI APPROVED<br>OP - OUT OF PRINT<br>NA - NOT YET AVAIL.<br>UD - UP-TO-DATE |          | 4-ANSI STANDARDS ACTION<br>5-OBJECTIONS BEING CONSIDERED<br>6-ANSI CONSIDERING APPROVAL                      |  |
|  |   | 0-NONE<br>1-FORMATIVE STAGE<br>2-DRAFTING STANDARD<br>3-VOTING ON PROPOSAL                             |          | C-ACCREDITED CANVASS<br>O-ACCREDITED ORGANIZATION<br>S-ACCREDITED STDS. COMMITTEE<br>X-NOT INTENDED FOR ANSI |  |

ATTACHMENT B-6  
S3/368

STATUS REPORT

FIELD: STATUS: BIOACOUSTICS

COMMITTEE: S3

| DESIGNATION/<br>EDITION | SUBJECT OR TITLE   | STATUS | ACTIVITY | METHOD | COMMENTS OR<br>EXPECTED DATE<br>OF SUBMISSION<br>TO ANSI |
|-------------------------|--|--------|----------|--------|--|
| S3.35-1985<br>(R 1990)  | Method for Measurement of Performance<br>Characteristics of Hearing Aids Under Simulated<br>in situ Working Conditions (S3/WG48) | UD     |          | S      |  |
| S3.36-1985<br>(R 1990)  | Specification for a Manikin for Simulated<br>in situ Airborne Acoustic Measurements (S3/WG67)                                    | UD     |          | S      |  |
| S3.37-1987<br>(R 1992)  | Preferred Earhook Nozzle Thread for<br>Postauricular Hearing Aids (S3/WG48)  | UD     |          | S      |  |
| S3.39-1987              | Specifications for Instruments to Measure<br>Aural Acoustic Impedance and Admittance<br>(Aural Acoustic Immittance) (S3/WG60)    | UD     |          | S      |  |

| STATUS   | ACTIVITY   | METHOD   |
|--|--|--|
| NS - NEW STD IN PROCESS<br>RF - REAFFIRMATION IN PROC.<br>RV - REVISION IN PROCESS<br>WD - WITHDRAWAL IN PROCESS<br>ES - ENVIRONMENTAL SOUND<br>SP - SUBMITTED PINS FORM | NR - NEEDS REVIEW<br>AP - ANSI APPROVED<br>OP - OUT OF PRINT<br>NA - NOT YET AVAIL.<br>UD - UP-TO-DATE | 4-ANSI STANDARDS ACTION<br>5-OBJECTIONS BEING CONSIDERED<br>6-ANSI CONSIDERING APPROVAL<br>C-ACCREDITED CANVASS<br>O-ACCREDITED ORGANIZATION<br>S-ACCREDITED STDS COMMITTEE<br>X-NOT INTENDED FOR ANSI |

ATTACHMENT B-7  
S3/368

STATUS REPORT

FIELD: STATUS: BIOACOUSTICS  
COMMITTEE: S3

| DESIGNATION/<br>EDITION   | SUBJECT OR TITLE  | STATUS                 | ACTIVITY                        | METHOD                         | COMMENTS OR<br>EXPECTED DATE<br>OF SUBMISSION<br>TO ANSI |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
|---|---|------------------------|---------------------------------|--------------------------------|--|--------|--|----------|--|--------|--|-------------------------|-------------------|----------|---------------------------|------------------------|--|-----------------------------|--------------------|---------------------|---------------------------------|-----------------------------|--|--------------------------|-------------------|-----------------------|-------------------------------|--------------------------------|--|----------------------------|---------------------|------------------------|--|---------------------------|--|--------------------------|-----------------|--|--|--|--|--------------------------|--|--|--|--|--|
| S3.40-1989  | Measurement and Evaluation of Gloves Which are Used to Reduce Exposure to Vibration Transmitted to the Hand (S3/WG39(S2)) | UD                     |                                 | S                              |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| S3-W-39   | The Effects of Shock and Vibration on Man (S3/WG39(S2))   | WD                     |                                 | S                              |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| Z24-X-2   | Relations of Hearing Loss to Noise Exposure, The  |                        |                                 | S                              |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| Z24.18-1956<br>(R 1971)   | Ultrasonic Therapeutic Equipment, Specification for   | WD                     |                                 | S                              |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| S3.XX   | Impulsive Noise with Respect to Human Response (S3/WG62)  |                        | 2                               | S                              |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| S3.XX   | Hearing Loss from Impulse/Impact Noise (S3/WG62)  | ES                     | 1                               | S                              |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
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| STATUS  |   | ACTIVITY               |                                 | METHOD                         |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| NS - NEW STD IN PROCESS   | NR - NEEDS REVIEW   | 0 - NONE               | 4 - ANSI STANDARDS ACTION       | C - ACCREDITED CANVASS         |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| RF - REAFFIRMATION IN PROC.   | AP - ANSI APPROVED  | 1 - FORMATIVE STAGE    | 5 - OBJECTIONS BEING CONSIDERED | O - ACCREDITED ORGANIZATION    |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| RV - REVISION IN PROCESS  | OP - OUT OF PRINT   | 2 - DRAFTING STANDARD  | 6 - ANSI CONSIDERING APPROVAL   | S - ACCREDITED STDS. COMMITTEE |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| WD - WITHDRAWAL IN PROCESS  | NA - NOT YET AVAIL.   | 3 - VOTING ON PROPOSAL |                                 | X - NOT INTENDED FOR ANSI      |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| ES - ENVIRONMENTAL SOUND  | UD - UP-TO-DATE   |                        |                                 |                                |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| SP - SUBMITTED PINS FORM  |   |                        |                                 |                                |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |

ATTACHMENT B-8  
S3/368

STATUS REPORT

FIELD:                      STATUS:      BIOACOUSTICS

COMMITTEE:              S3

| DESIGNATION/<br>EDITION  | SUBJECT OR TITLE  | STATUS                 | ACTIVITY                        | METHOD                         | COMMENTS OR<br>EXPECTED DATE<br>OF SUBMISSION<br>TO ANSI       |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
|--|---|------------------------|---------------------------------|--------------------------------|--|--------|--|----------|--|--------|--|-------------------------|-------------------|----------|---------------------------|------------------------|--|-----------------------------|--------------------|---------------------|---------------------------------|-----------------------------|--|--------------------------|-------------------|-----------------------|-------------------------------|--------------------------------|--|----------------------------|---------------------|------------------------|--|---------------------------|--|--------------------------|-----------------|--|--|--|--|--------------------------|--|--|--|--|--|
| S3.XX  | Speech Audiometry (S3/WG36/Subgroup 2)  |                        |                                 | S                              |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| S3.XX  | Communication Equipment Evaluation<br>(formerly S3/WG36 Subgroup 3)   |                        | 1                               | S                              |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| S3.XX  | Effects of Head and Torso on Sound<br>Fields as Related to Dosimetry and<br>Hearing Aids (formerly S3/WG61) |                        | 0                               | S                              | Information<br>document prepared<br>for publication<br>in JASA |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| S3.41-1990   | Audible Emergency Evacuation Signal<br>(counterpart to ISO 8201:1987) (S3/WG63)                             |                        | UD;SP                           | S                              |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| S3.XX-199X   | Occupational Noise Exposure (counterpart<br>to ISO 1999:1990) (S3/WG58)                                     |                        | NS                              | 1      S                       |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
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| STATUS   |   | ACTIVITY               |                                 | METHOD                         |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| NS - NEW STD IN PROCESS  | NR - NEEDS REVIEW   | 0 - NONE               | 4 - ANSI STANDARDS ACTION       | C - ACCREDITED CANVASS         |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| RF - REAFFIRMATION IN PROC.  | AP - ANSI APPROVED  | 1 - FORMATIVE STAGE    | 5 - OBJECTIONS BEING CONSIDERED | O - ACCREDITED ORGANIZATION    |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| RV - REVISION IN PROCESS   | OP - OUT OF PRINT   | 2 - DRAFTING STANDARD  | 6 - ANSI CONSIDERING APPROVAL   | S - ACCREDITED STDS. COMMITTEE |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| WD - WITHDRAWAL IN PROCESS   | NA - NOT YET AVAIL.   | 3 - VOTING ON PROPOSAL |                                 | X - NOT INTENDED FOR ANSI      |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| ES - ENVIRONMENTAL SOUND   | UD - UP-TO-DATE   |                        |                                 |                                |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| SP - SUBMITTED PINS FORM   |   |                        |                                 |                                |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |

ATTACHMENT B-9  
S3/368

STATUS REPORT

FIELD: STATUS: BIOACOUSTICS

COMMITTEE: S3

| DESIGNATION/<br>EDITION   | SUBJECT OR TITLE  | STATUS                 | ACTIVITY                        | METHOD                         | COMMENTS OR<br>EXPECTED DATE<br>OF SUBMISSION<br>TO ANSI |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
|---|---|------------------------|---------------------------------|--------------------------------|--|--------|--|----------|--|--------|--|-------------------------|-------------------|----------|---------------------------|------------------------|--|-----------------------------|--------------------|---------------------|---------------------------------|-----------------------------|--|--------------------------|-------------------|-----------------------|-------------------------------|--------------------------------|--|----------------------------|---------------------|------------------------|--|---------------------------|--|--------------------------|-----------------|--|--|--|--|--------------------------|--|--|--|--|--|
| S3.42-1992  | Testing Hearing Aids with a Broad-Band Noise Signal (S3/WG48)   | SP;UD                  |                                 | S                              |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| S3.43-1992  | Standard Reference Zero for the Calibration of Pure-Tone Bone-Conduction Audiometers (S3/WG43)  | SP;UD                  |                                 | S                              |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| S3.44-199x  | Determination of Occupational Noise Exposure and Estimation of Noise - Induced Hearing Impairment, Methods for the (counterpart to ISO 1999:1990) (S3/WG58) | NS;SP                  | 3                               | S                              |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| S3.XX   | Assistive Listening Devices (S3/WG81)   | SP;NS                  | 1                               |                                |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| S3.XX   | Probe-Tube Measurements of Hearing Aid Performance (S3/WG80)  | NS                     | 1                               |                                |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
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| STATUS  |   | ACTIVITY               |                                 | METHOD                         |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| NS - NEW STD IN PROCESS   | NR - NEEDS REVIEW   | 0 - NONE               | 4 - ANSI STANDARDS ACTION       | C - ACCREDITED CANVASS         |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| RF - REAFFIRMATION IN PROC.   | AP - ANSI APPROVED  | 1 - FORMATIVE STAGE    | 5 - OBJECTIONS BEING CONSIDERED | O - ACCREDITED ORGANIZATION    |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
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| WD - WITHDRAWAL IN PROCESS  | NA - NOT YET AVAIL.   | 3 - VOTING ON PROPOSAL |                                 | X - NOT INTENDED FOR ANSI      |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| ES - ENVIRONMENTAL SOUND  | UD - UP-TO-DATE   |                        |                                 |                                |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |
| SP - SUBMITTED PINS FORM  |   |                        |                                 |                                |  |        |  |          |  |        |  |                         |                   |          |                           |                        |  |                             |                    |                     |                                 |                             |  |                          |                   |                       |                               |                                |  |                            |                     |                        |  |                           |  |                          |                 |  |  |  |  |                          |  |  |  |  |  |



# ATTACHMENT B-10 S3/368

## STATUS REPORT

FIELD: STATUS: BIOACOUSTICS

COMMITTEE: S3

| DESIGNATION/<br>EDITION | SUBJECT OR TITLE                                    | STATUS | ACTIVITY | METHOD | COMMENTS OR<br>EXPECTED DATE<br>OF SUBMISSION<br>TO ANSI |
|-------------------------|---|--------|----------|--------|--|
| S3.XX                   | Basic Vestibular Function Test Battery<br>(S3/WG82) | NS     | 1        |        |  |

| STATUS   | ACTIVITY   | METHOD  |  |
|--|--|---|--|
| NS - NEW STD IN PROCESS<br>RF - REAFFIRMATION IN PROC.<br>RV - REVISION IN PROCESS<br>WD - WITHDRAWAL IN PROCESS<br>ES - ENVIRONMENTAL SOUND<br>SP - SUBMITTED PINS FORM | NR - NEEDS REVIEW<br>AP - ANSI APPROVED<br>OP - OUT OF PRINT<br>NA - NOT YET AVAIL.<br>UD - UP-TO-DATE | 4-ANSI STANDARDS ACTION<br>5-OBJECTIONS BEING CONSIDERED<br>6-ANSI CONSIDERING APPROVAL | C-ACCREDITED CANVASS<br>O-ACCREDITED ORGANIZATION<br>S-ACCREDITED STDS. COMMITTEE<br>X-NOT INTENDED FOR ANSI |

## COMMITTEE CORRESPONDENCE

S3/368  
ATTACHMENT C-1

Tom Frank, Ph.D.  
5-A Moore Building  
Department of Communication Disorders  
Penn State University  
University Park, PA 16802  
(Phone: 814/863-2006 FAX: 814/865-3759)

April 27, 1993

Avril Brenig  
Standards Manager  
Acoustical Society of America  
335 East 45th Street  
New York, NY 10017-3483

Dear Dr. Brenig,

A three-year plan concerning S3 (Bioacoustics) activities was presented to the ASACOS at the ASA 1992 Fall meeting in New Orleans, LA. The three-year plan included: (1) development of a schedule for S3 standards that needed revision/reaffirmation, (2) conversion of international standards, (3) development of new standards, and (4) new committee procedures. The following is an up-date of the three-year plan.

1. Development of a schedule for S3 standards that needed revision/reaffirmation.

The S3 Vice-Chair (T. Frank) has developed a reference book containing a: (1) Summary of S3 standards, (2) Summary of each S3 standard (listing WG Number/Name, WG Chair (address, phone, Fax), ISO/IEC standards with similar content, and comments), (3) Summary of WGs (listing chair and S3 standards of the WG), and (4) Summary of each S3 WG (listing chair, scope, S3 standards of the WG, ISO/IEC WG counterpart, and comments).

Following each S3 meeting the information in the reference book is updated. Further, the reference book is updated as information is received from ASA as well as from periodic contacts with the S3 Chair (J. Royster). Overall, the reference book has been a tremendous help in reference to organizational activities and rapid access to S3 standards or WG activities.

Attachment A shows the most recent summary of S3 standards. For the standards that need revision/reaffirmation in 1991/1992: (1) S3.7, S3.13, and S3.20 are in the final stages of revision/reaffirmation, (2) S3.14 topic has been moved to S12, and (3) S3.5, S3.22, and S3.39 are still being revised. The WG chairs of S3.5, S3.22 and S3.39 are aware that the revision/reaffirmation deadline has passed and are trying to complete revisions as soon as possible. No S3 standard needs revision/reaffirmation in 1993.

## 2. Conversion of international standards

The intent of this part of the plan was to incorporate/convert international standards into existing S3 standards. To some extent this has worked (eg., S3.43). The Vice-chair will continue to monitor ISO/IEC standards and provide them to WG chairs as S3 standards need revision/reaffirmation.

The Chair and Vice-chair have developed a method to be sure that ISO work efforts are assigned and monitored by a US member who will report to the appropriate WG chair.

## 3. Development of new standards

Through informal contacts and a recent journal article (Rochlin, G.D. Status of sound field audiometry among audiologists in the United States. J. Am. Acad. Audiol., 4:59-68, 1993), there is a need for a standard specifying methods and procedures for calibrating a sound-field including reference equivalent sound pressure level thresholds in a sound field. Consequently, action should be taken to either establish a WG in this area or a sub-group within WG 35 audiometers. Advice will be sought during the ASA Spring 1993 meeting as to how to proceed.

The Vice-chair plans to survey WG chairs as to their opinion of the need for new standards. Further, the Vice-chair plans to write a very short article that will appear in various audiology association newsletters requesting information concerning the development of new standards and improvements on existing standards.

## 4. New committee procedures

A procedure for establishing a time frame for WGs to revise/reaffirm an existing standard or to develop a draft standard is still being considered.

The Vice-chair has developed a data base mail-merge system to be used to inform WG chairs of the due date and the need to revise/reaffirm standards in their area. An annual letter will be sent to WG chairs starting June 1, 1993. Hopefully, this will have the effect of alerting WG chairs to get their work done on time. Further, the Vice-chair will send out an individual letter to a WG chair approximately 18 months prior to the revision/reaffirmation data of their standard starting June 1, 1993.

Sincerely,



Tom Frank, Ph.D.  
Vice-chair, S3

Julia D. Royster, Ph.D.  
Chair, Accredited Standards Committee S3  
4706 Connell Drive  
Raleigh, NC 27612

**ACCREDITED STANDARDS COMMITTEE ON BIOACOUSTICS - S3**  
**SUMMARY OF STANDARDS AS OF 04/27/93**

**STANDARDS THAT NEED REVISION/REAFFIRMATION IN 1991/1992:**

**S3.5-1969 (R 1986) METHODS FOR THE CALCULATION OF THE ARTICULATION INDEX (S3/WG79, C. Pavlovic, Chair) [NOTE: Revision in progress]**

**S3.7-1973 (R 1986) METHOD FOR COUPLER CALIBRATION OF EARPHONES (S3/WG37, B. Kruger, Chair) [NOTE: Revision has been completed, balloting has been done, and currently resolving a negative vote]**

**S3.13-1987 [Revision of ANSI S3.13-1972] (ASA 74) MECHANICAL COUPLER FOR MEASUREMENT OF BONE VIBRATORS (S3/WG43, T. Frank, Chair) [NOTE: Balloting for reaffirmation has been completed, awaiting outcome]**

**S3.14-1977 (R 1986) (ASA 21) RATING NOISE WITH RESPECT TO SPEECH INTERFERENCE (S3/WG59) [NOTE: Moved to S12]**

**S3.20-1973 (R 1986) PSYCHOACOUSTICAL TERMINOLOGY (S3/WG73, W. Galloway, Chair) [NOTE: Information in S3.20 has been incorporated into S1.1 Acoustical Terminology, once S1.1 has been approved, recommend that S3.20 be withdrawn]**

**S3.22-1987 [Revision of ANSI S3.22-1982] (ASA 70) SPECIFICATIONS OF HEARING AID CHARACTERISTICS (S3/WG48, D. Preves, Chair) [NOTE: Revision in progress]**

**S3.39-1987 (ASA 71) SPECIFICATIONS FOR INSTRUMENTS TO MEASURE AURAL ACOUSTIC IMPEDANCE AND ADMITTANCE (AURAL ACOUSTIC IMMITTANCE) (S3/WG60, D. Lilly, Chair) [NOTE: Revision in progress]**

**STANDARDS THAT NEED REVISION/REAFFIRMATION IN 1993:**

NONE

**STANDARDS THAT NEED REVISION/REAFFIRMATION IN 1994:**

**S3.2-1989 [Revision of S3.2-1960 (R 1982)] (ASA 85) METHOD FOR MEASURING THE INTELLIGIBILITY OF SPEECH OVER COMMUNICATION SYSTEMS (S3/WG36, L. Marshall, Chair)**

**S3.6-1989 [Revision of S3.6-1969] (ASA 81) SPECIFICATION FOR AUDIOMETERS (S3/WG35, R. Grason, Chair)**

**S3.25-1989 [Revision of ANSI S3.25-1979] (ASA 80) OCCLUDED EAR SIMULATOR (S3/WG37, B. Kruger, Chair)**

**S3.40-1989 (ASA 79) GUIDE FOR THE MEASUREMENT AND EVALUATION OF GLOVES WHICH ARE USED TO REDUCE EXPOSURE TO VIBRATION TRANSMITTED TO THE HAND (S3/WG39, H. von Gierke, Chair)**

**STANDARDS THAT NEED REVISION/REAFFIRMATION IN 1995:**

**S3.3-1960 (R 1982, 1990) METHODS FOR MEASUREMENT OF ELECTROACOUSTIC CHARACTERISTICS OF HEARING AIDS (S3/WG48, D. Preves, Chair) [NOTE: Will be withdraw once S3.22 is revised]**

**S3.19-1974 (R 1990) (ASA 1) METHOD FOR THE MEASUREMENT OF REAL-EAR PROTECTION OF HEARING PROTECTORS AND PHYSICAL ATTENUATION OF EAR MUFFS**  
(No S3 WG Assigned) [Should be withdrawn once S12.?? is approved]

**S3.26-1981 (R 1990) (ASA 41) REFERENCE EQUIVALENT THRESHOLD FORCE LEVELS FOR AUDIOMETRIC BONE VIBRATORS (S3/WG43, T. Frank, Chair) [NOTE: Balloting for withdrawal has been completed, awaiting outcome]**

**S3.29-1983 (R 1990) (ASA 48) GUIDE TO THE EXPOSURE OF VIBRATION IN BUILDINGS (S3/WG39, H. von Gierke, Chair)**

**S3.32-1982 (R 1990) (ASA 43) MECHANICAL VIBRATION AND SHOCK AFFECTING MAN-VOCABULARY (S3/WG39, H. von Gierke, Chair)**

**S3.35-1985 (R 1990) (ASA 59) METHODS OF MEASUREMENT OF PERFORMANCE CHARACTERISTICS OF HEARING AIDS UNDER SIMULATED IN-SITU WORKING CONDITIONS (S3/WG48, D. Preves, Chair)**

**S3.36-1985 (R 1990) (ASA 58) SPECIFICATION FOR A MANIKIN FOR SIMULATED IN-SITU AIRBORNE ACOUSTIC MEASUREMENTS (S3/WG67, M. Burkhard, Chair)**

**S3.41-1990 (ASA 96) AUDIBLE EMERGENCY EVACUATION SIGNAL (S3/WG63, M. Whitcomb, Chair)**

**STANDARDS THAT NEED REVISION/REAFFIRMATION IN 1996:**

**S3.1-1991 [Revision of ANSI S3.1-1977 (R 1986)] (ASA 99) MAXIMUM PERMISSIBLE AMBIENT NOISE LEVELS FOR AUDIOMETRIC TEST ROOMS (S3/WG56, T. Frank, Chair)**

**STANDARDS THAT NEED REVISION/REAFFIRMATION IN 1997:**

**S3.4-1980 (R 1986, 1992) (ASA 37) PROCEDURE FOR THE COMPUTATION OF LOUDNESS OF NOISE (S3/WG51, J. Goldstein, Chair)**

**S3.18-1979 (R 1986, 1992) (ASA 38) GUIDE FOR THE EVALUATION OF HUMAN EXPOSURE TO WHOLE-BODY VIBRATION (S3/WG39, H. von Gierke, Chair)**

**S3.21-1978 (R 1986, 1992) (ASA 19) METHOD OF MANUAL PURE-TONE AUDIOMETRY (S3/WG35, R. Grason, Chair)**

**S3.34-1986 (R 1992) (ASA 67) GUIDE FOR THE MEASUREMENT AND EVALUATION OF HUMAN EXPOSURE TO VIBRATION TRANSMITTED TO THE HAND (S3/WG39, H. von Gierke, Chair)**

**S3.37-1987 (R 1992) (ASA 69) PREFERRED EARHOOK NOZZLE THREAD FOR POSTAURICULAR HEARING AIDS (S3/WG48, D. Preves, Chair)**

**S3.42-1992 TESTING HEARING AIDS WITH A BROAD-BAND NOISE SIGNAL (S3/WG48, D. Preves, Chair)**

**S3.43-1992 STANDARD REFERENCE ZERO FOR THE CALIBRATION OF PURE-TONE BONE-CONDUCTION AUDIOMETERS (S3/WG43, T. Frank, Chair)**

**STANDARDS IN PROGRESS:**

**S3.44-199x DETERMINATION OF OCCUPATIONAL NOISE EXPOSURE AND ESTIMATION OF NOISE INDUCED HEARING IMPAIRMENT (S3/WG58, D.L. Johnson and Wm Melnick, Chair)**

**ISO WORK EFFORTS AND S3.0 ASSIGNMENTS**

**ISO TC43/SC 1 REFERENCE HEARING THRESHOLD LEVELS FOR ACOUSTIC TEST SIGNALS OF SHORT DURATION. [US Member/Documents L. Wilber, S3/WG72-Measurement of Auditory Evoked Potentials, R. Ruth, Chair]**

**ISO TC43/SC 1 REFERENCE THRESHOLD LEVELS FOR PURE TONES IN THE FREQUENCY RANGE 8 - 16 kHz. [US Member/Documents L. Wilber, J. Fletcher, S3/WG77-High Frequency Audiometry, J. Fletcher, Chair]**

**ISO TC43/SC 1 ACOUSTICS-AUDIOMETRIC TEST METHODS. PART 3: SPEECH AUDIOMETRY. [US Member/Documents L. Wilber, S3/WG35-Audiometers, R. Grason, Chair]**

**ISO TC43/SC 1 NOISE EMISSIONS FROM SOUND SOURCES PLACED AT THE EARS. PART 1: NOISE IMMISSIONS ESPECIALLY BY OPEN HEADPHONES AND PUSH-IN EARPHONES. PART 2: NOISE IMMISSIONS ESPECIALLY BY HALF-OPEN AND CLOSED HEADPHONES EXCEPT PUSH-IN EARPHONES. [US Member/Documents R. Campbell, S3/WG37-Coupler Calibration of Earphones, B. Kruger, Chair]**

**ISO TC43/SC 1 ACOUSTICS-EQUAL-LOUDNESS CONTOURS FOR OTOLOGICALLY NORMAL LISTENERS. PART 1: REFERENCE THRESHOLD OF HEARING UNDER FREE-FIELD AND DIFFUSE-FIELD LISTENING CONDITIONS. [US Member/Documents L. Wilber, S3/WG78-Thresholds, W. Yost, Chair]**



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## S3/368 ATTACHMENT D-1

### S3 STANDARDS ON BIOACOUSTICS

|                                 |  |
|---------------------------------|--|
| <u>ANSI S3.1-1991</u>           | Maximum Permissible Ambient Noise Levels<br>for Audiometric Test Rooms                                       |
| <u>ANSI S3.2-1989</u>           | Method for Measuring the Intelligibility of Speech over Communication Systems                                |
| <u>ANSI S3.3-1960 (R 1990)</u>  | Methods for Measurement of Electroacoustical Characteristics of Hearing Aids                                 |
| <u>ANSI S3.4-1980 (R 1986)</u>  | Procedure for the Computation of Loudness of Noise   |
| <u>ANSI S3.5-1969 (R 1986)</u>  | Methods for the Calculation of the Articulation Index  |
| <u>ANSI S3.6-1989</u>           | Specification for Audiometers  |
| <u>ANSI S3.7-1973 (R 1986)</u>  | Method for Coupler Calibration of Earphones  |
| <u>ANSI S3.13-1987</u>          | Mechanical Coupler for Measurement of Bone Vibrators   |
| <u>ANSI S3.14-1977 (R 1986)</u> | Rating Noise with Respect to Speech Interference   |
| <u>ANSI S3.18-1979 (R 1986)</u> | Guide for the Evaluation of Human Exposure to Whole-Body Vibration   |
| <u>ANSI S3.19-1974 (R 1990)</u> | Method for the Measurement of Real-Ear Protection of Hearing Protectors and Physical Attenuation of Earmuffs |
| <u>ANSI S3.20-1973 (R 1986)</u> | Psychoacoustical Terminology   |
| <u>ANSI S3.21-1978 (R 1986)</u> | Method for Manual Pure-Tone Threshold Audiometry   |
| <u>ANSI S3.22-1987</u>          | Specification of Hearing Aid Characteristics   |
| <u>ANSI S3.25-1989</u>          | An Occluded Ear Simulator  |

S3 STANDARDS ON BIOACOUSTICS (continued)

|                                 |  |
|---------------------------------|--|
| <u>ANSI S3.26-1981 (R 1990)</u> | Reference Equivalent Threshold Force Levels for Audiometric Bone Vibrators   |
| <u>DRAFT ANSI S3.28-1986</u>    | Methods for the Evaluation of the Potential Effect on Human Hearing of Sounds with Peak A-Weighted Sound Pressure Levels Above 120 Decibels and Peak C-Weighted Sound Pressure Levels Below 140 Decibels |
| <u>ANSI S3.29-1983 (R 1990)</u> | Guide to the Evaluation of Human Exposure to Vibration in Buildings  |
| <u>ANSI S3.32-1982 (R 1990)</u> | Mechanical Vibration and Shock Affecting Man--Vocabulary   |
| <u>ANSI S3.34-1986</u>          | Guide for the Measurement and Evaluation of Human Exposure to Vibration Transmitted to the Hand  |
| <u>ANSI S3.35-1985 (R 1990)</u> | Method of Measurement of Performance Characteristics of Hearing Aids under Simulated <u>in situ</u> Working Conditions   |
| <u>ANSI S3.36-1985 (R 1990)</u> | Specification for a Manikin for Simulated <u>in situ</u> Airborne Acoustic Measurements  |
| <u>ANSI S3.37-1987</u>          | Preferred Earhook Nozzle Thread for Postauricular Hearing Aids   |
| <u>ANSI S3.39-1987</u>          | Specifications for Instruments to Measure Aural Acoustic Impedance and Admittance (Aural Acoustic Immittance)  |
| <u>ANSI S3.40-1989</u>          | Guide for the Measurement and Evaluation of Gloves which are used to reduce Exposure to Vibration Transmitted to the Hand  |
| <u>ANSI S3.41-1990</u>          | Audible Emergency Evacuation Signal  |
| <u>ANSI S3.42-1992</u>          | Testing Hearing Aids with a Broad-Band Noise Signal  |
| <u>ANSI S3.43-1992</u>          | Standard Reference Zero for the Calibration of Pure-Tone Bone-Conduction Audiometers   |



**S3 COMMITTEE CORRESPONDENCE**

**Tom Frank, Ph.D.  
5-A Moore Building  
Penn State University  
University Park, PA 16802  
Phone: 814/863-2006; FAX: 814/863-3759**

Date: April 29, 1993  
To: ✓ Avril Brenig, Standards Manager, ASA, 335 E. 45th St, New York, NY  
100017-3483  
From: T. Frank  
Subject: S3/WG43 Summary Report for S3 Meeting in Ottawa

WG43 Method for Calibration of Bone Conduction Vibrators is responsible for the following standards.

ANSI S3.13-1987, Mechanical Coupler for Measurement of Bone Vibrators.

ANSI S3.26-1981 (R 1990), Reference Equivalent Threshold Force levels for Audiometric Bone Vibrators.

ANSI S3.43-1992, Standard Reference Zero for the Calibration of Pure-Tone Bone-Conduction Audiometers.

WG43 recommended that S3.13-1987 be reaffirmed and that S3.26 be withdrawn since it was superseded by S3.43. Consequently, S3.13-1987 was reaffirmed in 1993 by ballot vote and will be due for revision/reaffirmation in 1998.

The information provided in S3.43-1992 will be incorporated into the next revision of S3.6-1989 Specifications for Audiometers. As a result, reference hearing thresholds for both air and bone conduction will be contained in the same standard. T. Frank will assist R. Grason (Chair, WG35 Audiometers) during the revision of S3.6. Once the revision of S3.6-1989 has been accepted (projected for 1994), it will be recommended that S3.43 be withdrawn.

cc: J. Royster, Chair S3, WG43 Committee Members



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S3/368  
ATTACHMENT F-1

15 April 1993

TO: J.D. Royster, Chair S3

Re: Letter Ballot LB/S3.44/357 sent to the Accredited  
Standards Committee S3 on 25 January 1993, and  
closed on 8 March 1993

---

SUBJECT: Approval of proposed draft standard, ANSI S3.44-199X Determination  
of Occupational Noise Exposure and Estimation of Noise Induced  
Hearing Impairment, draft dated October 1992

---

Enclosed please find tally of the above letter ballot, showing results  
as follows:

## CLASSIFICATION OF MEMBERS

|                   |       |                       |       |
|-------------------|-------|-----------------------|-------|
| AFFIRMATIVE VOTES | 10    | P - PRODUCER          | 4     |
| NEGATIVE VOTES    | 2     | C - CONSUMER          | 7     |
| ABSTENTIONS       | 2     | G - GOVERNMENT        | 3     |
| NOT RETURNED      | 8     | GI - GENERAL INTEREST | 7     |
|                   | ----- |                       | ----- |
| TOTAL             | 22    | TOTAL                 | 22    |

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Letter Ballot S3.44/357

Continuation of results of letter ballot 3.44/357:

AFFIRMATIVE VOTES:

|               |   |
|---------------|---|
| Atack, R.M.   | U.S. Army Medical Corps.                        |
| Bovi, A.M.    | Industrial Safety Equipment Association, Inc.   |
| Burkard, R.F. | American Speech-Language-Hearing Association    |
| Garinther, G. | U.S. Army Human Engineering Laboratory          |
| Mayer, M.S.   | AT&T  |
| Alternate     |   |
| Naunton, R.F. | American Otological Society, Inc.               |
| Nixon, C.     | U.S. Dept. of the Air Force                     |
| Page, J.      | U.S. Dept. of the Navy,                         |
|               | BUREAU OF MEDICINE AND SURGERY                  |
| Royster, J.D. | Acoustical Society of America                   |
| Zagzebski, J. | American Institute of Ultrasound<br>in Medicine |

NEGATIVE VOTES:

|                |  |
|----------------|--|
| Bohl, C.D.     | American Industrial Hygiene Association                      |
| Toothman, E.H. | Fastener Industry Noise Control<br>Research Program (FINCRP) |

ABSTENTIONS:

|                  |                              |
|------------------|------------------------------|
| Brown, M.        | Power Tool Institute, Inc.   |
| Hopmeier, W.F.S. | National Hearing Aid Society |

NOT RETURNED:

|                 |   |
|-----------------|---|
| Addington, J.H. | Compressed Air and Gas Institute                            |
| Brownson, P.J.  | American College of Occupational Medicine                   |
| Burnett, E.D.   | National Institute of Standards and<br>Technology           |
| Campell, R.     | Audio Engineering Society, Inc.                             |
| Conger, C.D.    | Hearing Industries Association (HIA)                        |
| Michael, L.A.   | American Academy of Otolaryngology<br>Head and Neck Surgery |
| Michel, G.C.    | Bruel & Kjaer Instruments, Inc.                             |
| Patterson, J.H. | U.S. Army Aeromedical Res. Lab.                             |

- 3 -

Letter Ballot S3.44/357

Continuation of results of letter ballot S3.44/357:

LATE RESPONSE:

|                  |   |
|------------------|---|
| Bovi, A.M.       | Industrial Safety Equipment Association, Inc.   |
| Hopmeier, W.F.S. | National Hearing Aid Society                    |
| Mayer, M.S.      | AT&T  |
| Nixon, C.        | U.S. Dept. of the Air Force                     |
| Zagzebski, J.    | American Institute of Ultrasound<br>in Medicine |

INDIVIDUAL EXPERTS:

- 1) Individual Experts stating they will participate in the review of the document:

Barry, S.J.  
Benson, R.W.  
Fletcher, J.L.  
Wasserman, D.E.  
Yost, W.A.

- 2) Individual Experts stating they will not participate in the review of the document:

NONE

- 3) Comments and/or recommendations were received from one Individual Experts, as follows:

Young, R.W.      NEGATIVE COMMENTS

Avril Brenig  
Standards Manager

cc: Vice Chair, Standards Committee  
Chair and Vice Chair, ASACOS  
Chair, Working Group



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S3/368  
ATTACHMENT F-4

IMMEDIATE RETURN REQUESTED

LB/S3.44/357  
25 January 1993

Return to: Letter Ballot Department  
Due date: 8 March 1993

## LETTER BALLOT ACCREDITED STANDARDS COMMITTEE ON BIOACOUSTICS, S3

Topic: Approval of proposed draft standard, ANSI S3.44-199X Determination of Occupational Noise Exposure and Estimation of Noise Induced Hearing Impairment, draft dated October 1992

Authorized by: J.D. Royster, Chair S3

Circulated by: A. Brenig, ASA Standards Manager

### Reference Document(s):

ATTACHMENT A Proposed draft standard, ANSI S3.44-199X,  
DOC/LB/S3.44/357 Determination of Occupational Noise Exposure  
and Estimation of Noise Induced Hearing Impairment

ATTACHMENT B Letter from J.D. Royster, Chair S3, to A. Brenig,  
dated 5 October 1992

### Background Information:

Working Group S3/WG58 under co-chairmanship of D.L. Johnson and W. Melnick, assisted Accredited Standards Committee S3, Bioacoustics, in the preparation of this draft of ANSI S3.44-199X. The working was originally chaired by J. Tonndorf.

Both the Chair of S3, J.D. Royster, and the co-chairs of the preparatory working group, S3/WG58 D.L. Johnson and W. Melnick recommend approval of the draft of ANSI S3.44-199X, as a proposed American National Standard.



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S3/368  
ATTACHEMNT G-1

TO: G.S.K. Wong, Chair S1

Re: Letter Ballot LB/S1.1/380 sent to the Accredited  
Standards Committee S1 for vote (and to S2, S3 and S12  
for review and comment) on 26 March 1993, and closed  
on 5 May 1993

---

SUBJECT: Approval of proposed revision of ANSI S1.1-1960 (R 1976)  
Acoustical Terminology, draft dated March 1993

---

Enclosed please find tally of the above letter ballot, showing results  
as follows:

## CLASSIFICATION OF MEMBERS

|                   |           |                       |           |
|-------------------|-----------|-----------------------|-----------|
| AFFIRMATIVE VOTES | 6         | P - PRODUCER          | 5         |
| NEGATIVE VOTES    | 3         | C - CONSUMER          | 3         |
| ABSTENTIONS       | 0         | G - GOVERNMENT        | 6         |
| NOT RETURNED      | 8         | GI - GENERAL INTEREST | 3         |
|                   | —         |                       | —         |
| TOTAL             | <u>17</u> | TOTAL                 | <u>17</u> |

Continuation of results of letter ballot S1.1/380:

AFFIRMATIVE VOTES:

|                         |   |
|-------------------------|---|
| Arrington, J.           | U.S. Army Primary Standards Laboratory      |
| Augsburger, G.L. (Alt.) | National Council of Acoustical Consultants  |
| Fung, T.                | U.S. Army Communication Electronics Command |
| Mayer, M.S.             | AT&T  |
| Michel, G.C.            | Bruel & Kjaer Instruments, Inc.             |
| Sepmeyer, L.W.          | Audio Engineering Society                   |

NEGATIVE VOTES:

|               |   |
|---------------|---|
| Bohl, C.D.    | American Industrial Hygiene Association                   |
| Schomer, P.D. | Acoustical Society of America                             |
| Schomer, P.D. | U.S. Army Construction Engineering<br>Research Laboratory |

ABSTENTIONS:

NONE

NOT RETURNED:

|                 |  |
|-----------------|--|
| Anderson, R.    | Larson-Davis Laboratories                          |
| Kalb, J.        | U.S. Army Human Engineering Laboratory             |
| Linderoth, R.T. | Sonetronics, Inc.                                  |
| Lotz, R.        | Computer & Business Equipment Manufacturers, Assn. |
| McKinley, R.    | U.S. Department of the Air Force (USAF)            |
| Mozo, B.        | U.S. Army Aeromedical Research Laboratory          |
| Nedzelinsky, V. | National Institute of Standards<br>and Technology  |
| Wang, S.        | Air-Conditioning & Refrigeration<br>Institute      |

LATE RESPONSE:

NONE

Continuation of results of letter ballot S1.1/380:

INDIVIDUAL EXPERTS:

- 1) Individual Experts stating they will participate in the review of this document:

Ehrlich, S.L.  
Thornton, W.R.

- 2) Individual Experts stating they will not participate in the review of the document:

Flynn, D.R.

- 3) Comments and/or recommendations were received from 3 Individual Expert(s) as follows:

|                |                      |
|----------------|----------------------|
| Ehrlich, S.L.  | Negative Comments    |
| Flynn, D.R.    | Affirmative Comments |
| Thornton, W.R. | Affirmative Comments |

OTHER

See Attached sheets

Avril Brenig  
Standards Manager

cc: Vice Chair, Standards Committee S1  
Chair and Vice Chair, ASACOS  
Chair, Working Group





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IMMEDIATE RETURN REQUESTED

LB/S1.1/380  
26 March 1993

Return to: Letter Ballot Department  
Due date: 7 May 1993

LETTER BALLOT  
ACCREDITED STANDARDS COMMITTEE  
ON ACOUSTICS, S1

Topic: Approval of proposed revision of ANSI S1.1-1996, (R 1976)  
Acoustical Terminology, draft dated March 1993

Authorized for circulation by: G.S.K. Wong, Chair S1

Circulated by: A. Brenig, ASA Standards Manager

Reference Document(s):

ATTACHMENT A Proposed revision of ANSI S1.1-1960 (R 1976)  
DOC/LB/S1.1/380 Acoustical Terminology, draft dated March 1993

ATTACHMENT B Memo from W.J. Galloway to Chairs, Standards Committees S1,  
S2, S3 S12, ASA Standards Director and ASA Standards  
Manager, dated 5 January 1993

ATTACHMENT C Letter from G.S.K. Wong to A. Brenig, dated 12 March 1993

Background Information:

This proposed revision of ANSI S1.1-1960 Acoustical Terminology, draft dated March 1993, has been prepared by an ad hoc group, chaired by W.J. Galloway, which assisted Accredited Standards Committee S1 in its preparation.

G.S.K. Wong, Chair, Accredited Standards Committee S1, Acoustics, and the chair of the ad hoc group, W.J. Galloway, both recommend approval of the current draft as a proposed ANSI standard.

This document is being circulated to S1 for vote, and to S2, S3 and S12 for information and comment. Any changes which are submitted in response to this ballot must be accompanied by proposed textual changes given in writing. These proposed changes should be given on separate sheets of paper, not incorporated in the document itself.

MEMORANDUM 9304

Subject: Draft Revision of S1.1-1960 (R1976) Acoustical Terminology

From: W.J. Galloway

To: Chairs, Standards Committees S1, S2, S3, S12,  
ASA Standards Director, ASA Standards Manager

Date: 5 January 1993

The enclosed draft for a revised S1.1-1960 is, I believe, ready for ballot. Section 13 on music is as I received it from R.W.Young. It is not precisely in the same format as the rest of the document, but it is about 98% so. I will retype it into the same format as the rest of the document in the next day or so, but the text will remain the same.

The annex containing the alphabetical index could stand some editing- I wasn't as sophisticated as I should have been in the sort process that generated it. By the time Avril is ready to send the document out (about the end of March), I should have some replacement pages for her to incorporate.

I have not prepared an information note for the ballot, since this is your prerogative. However, it might include the following statement.

"This draft proposal for S1.1-1993 is a revision of S1.1-1960 (R1976), Acoustical Terminology. It differs from the draft circulated for comment in 1990 in the following ways:

The style of the document has been converted to be in accord with the current ANSI and ASACOS editorial guidelines.

The alphabetical structure of the 1990 draft has been converted to the numbered subject structure of S1.1-1960, where every term has an individual number, keyed to numbered subject sections. An alphabetical index of individual terms is provided, along with the number associated with each term.

A substantial number of terms not included in the 1990 draft are provided, including many in the S1.1-1960 version that had been omitted. Numerous errors have also been corrected. The entire section on "Recording and reproducing" that exists in S1.1-1960 has been omitted, as it was in the 1990 draft. This material is obsolete and is being superseded by activities in S1.4 under the auspices of the Audio Engineering Society. In the 1990 draft no material was provided covering "Sonics", a section included in S1.1-1960. A new section has been incorporated in this 1993 draft entitled "Sonics and ultrasonic testing", which includes terms

originally contained in S1.1-1960 as well as a number of terms on ultrasonic testing provided by a Canadian group working on a parallel effort to produce a standard on acoustical terminology.

A number of the terms in the 1990 draft were based on their counterparts in the international standard on terminology IEC 50(801)-1984, *Acoustic and electroacoustics*. Every effort has been made in this 1993 draft to incorporate as much of the international wording as possible, including a large number of revisions of the IEC document that are now in press in Geneva. Where the international document refers to international standards, however, this 1993 draft for S1.1 incorporates current ANSI or other domestic standards instead, if they exist.

The 1990 draft received a large number of comments from its reviewers. These have been considered term by term in the preparation of the 1993 draft. Many of the reviewers comments are accounted for by using the current IEC definitions; others have been accepted wherever feasible."

NOTE TO REVIEWERS OF PROPOSED DRAFT REVISION OF S1.1-1960:

Between the time of submittal of the 5 March 1993 draft of the proposed revision of S1.1-1960 (R1976) Acoustical Terminology to the S committee chairs and the Standards Secretariat several changes of an editorial nature and one change of technical substance have occurred. In an attempt to expedite the circulation of the draft, the secretariat immediately began its duplication and preparation for ballot upon receipt of the 5 March draft. Rather than expend the considerable time and money that would be required to reproduce the entire document over again in order to incorporate the recent changes, it was agreed with the Standards Secretariat that the one technical change would be provided as an addendum, along with this note of explanation. All editorial changes will, of course, be included with revisions of the document which will undoubtedly be required to accommodate comments received from the ballot and review by the S committees.

One of the major editorial changes has been a refinement of the alphabetical index included as Annex A. Reviewers are asked to look kindly at the current draft and to realize that it deserves a great deal of refinement, much of which has already been performed, but too late to include in the copy which you are being asked to review.

The one technical change which you are asked to consider is included with this memorandum. Namely, there were a few numerical errors in Table 13.1, "Interval comparisons in different mathematical tuning systems". A replacement page is attached.

Thank you for your indulgence.

William J. Galloway

Table 13.1

Interval comparisons in different mathematical tuning systems

| Name of interval       | Pythagorean  |       |         | Equally tempered |       | Just   |       |         |
|------------------------|--------------|-------|---------|------------------|-------|--------|-------|---------|
|                        | Origin       | Ratio | Cents   | Ratio            | Cents | Origin | Ratio | Cents   |
| Unison                 | 1:1          | 1.000 | 0.00    | 1.000            | 0     | 1:1    | 1.000 | 0.00    |
| Minor second           | $2^8:3^5$    | 1.054 | 90.22   | 1.059            | 100   | 16:15  | 1.067 | 111.73  |
| Lesser major second    | $3^2:2^3$    | 1.125 | 203.91  | 1.122            | 200   | 10:9   | 1.111 | 182.40  |
| Greater major second   |              |       |         |                  |       | 9:8    | 1.125 | 203.91  |
| Minor third            | $2^5:3^3$    | 1.185 | 294.13  | 1.189            | 300   | 6:5    | 1.200 | 315.64  |
| Major third            | $3^4:2^6$    | 1.266 | 407.82  | 1.260            | 400   | 5:4    | 1.250 | 386.31  |
| Perfect fourth         | $2^2:3$      | 1.333 | 498.04  | 1.335            | 500   | 4:3    | 1.333 | 498.04  |
| Augmented fourth       | $3^6:2^9$    | 1.424 | 611.73  | 1.414            | 600   | 45:32  | 1.406 | 590.22  |
| Diminished fifth       | $2^{10}:3^6$ | 1.405 | 588.27  | 1.414            | 600   | 64:45  | 1.422 | 609.78  |
| Perfect fifth          | 3:2          | 1.500 | 701.96  | 1.498            | 700   | 3:2    | 1.500 | 701.96  |
| Minor sixth            | $2^7:3^4$    | 1.580 | 792.18  | 1.587            | 800   | 8:5    | 1.600 | 813.69  |
| Major sixth            | $3^3:2^4$    | 1.688 | 905.87  | 1.682            | 900   | 5:3    | 1.667 | 884.36  |
| Minor seventh          | $2^4:3^2$    | 1.778 | 996.09  | 1.782            | 1000  | 7:4    | 1.750 | 968.83  |
| Harmonic minor seventh |              |       |         |                  |       | 16:9   | 1.778 | 996.09  |
| Grave minor seventh    |              |       |         |                  |       | 9:5    | 1.800 | 1017.60 |
| Major seventh          | $3^5:2^7$    | 1.898 | 1109.78 | 1.888            | 1100  | 15:8   | 1.875 | 1088.27 |
| Octave                 | 2:1          | 2.000 | 1200.00 | 2.000            | 1200  | 2:1    | 2.000 | 1200.00 |



# ACOUSTICAL SOCIETY OF AMERICA

S3/368  
ATTACHMENT G-9

OFFICE OF THE  
STANDARDS SECRETARIAT

335 EAST 45TH STREET NEW YORK, NEW YORK 10017 3483

AVRIL BRENIG D. P. H.  
STANDARDS MANAGER

Telephone (212) 661-9404  
Telex 960983 AMINSTPHYS NYK  
Telefax (212) 949-0473

11 May 1993

COMMENTS RECEIVED FROM ACCREDITED STANDARDS COMMITTEE S2  
in response to S2/249 circulated with the letter ballot sent  
to S1 (LB/S1.1/380) on the proposed revision of ANSI S1.1-1960  
Acoustical Terminology - S1 ballot circulated on 26 March with  
a closing date of 7 May 1993

---

The comments received from Accredited Standards Committee S2, Mechanical Vibration and Shock, in response to S2/249 circulated with the letter ballot sent to S1 (LB/S1.1/380) on the proposed revision of ANSI S1.1-1960 Acoustical Terminology are enclosed herewith.

Response were received as follows:

| NAME                       | ORGANIZATION REPRESENTED | INDIVIDUAL EXPERT |
|----------------------------|--------------------------|-------------------|
| No responses were received |                          |                   |



# ACOUSTICAL SOCIETY OF AMERICA

OFFICE OF THE  
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S3/368  
ATTACHMENT G-10

11 May 1993

COMMENTS RECEIVED FROM ACCREDITED STANDARDS COMMITTEE S3 in response to S3/365 circulated with the letter ballot sent to S1 (LB/S1.1/380) on the proposed revision of ANSI S1.1-1960 Acoustical Terminology - S1 ballot circulated on 26 March with a closing date of 7 May 1993

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The comments received from Accredited Standards Committee S3, Bioacoustics, in response to S3/365 circulated with the letter ballot sent to S1 (LB/S1.1/380) on the proposed revision of ANSI S1.1-1960 Acoustical Terminology are enclosed herewith.

Response were received as follows:

| NAME          | ORGANIZATION REPRESENTED                               | INDIVIDUAL EXPERT |
|---------------|--|-------------------|
| Burkard, R.F. | American Speech-Language<br>Hearing Association (ASHA) |                   |



# ACOUSTICAL SOCIETY OF AMERICA

S3/368  
ATTACHMENT G-11

OFFICE OF THE  
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Telefax: (212) 949-0473

11 May 1993

COMMENTS RECEIVED FROM ACCREDITED STANDARDS COMMITTEE S12  
in response to S12/268 circulated with the letter ballot sent  
to S1 (LB/S1.1/380) on the proposed revision of ANSI S1.1-1960  
Acoustical Terminology - S1 ballot circulated on 26 March with  
a closing date of 7 May 1993

---

The comments received from Accredited Standards Committee S12, Noise, in response to S12/268 circulated with the letter ballot sent to S1 (LB/S1.1/380) on the proposed revision of ANSI S1.1-1960 Acoustical Terminology are enclosed herewith.

Response were received as follows:

| <u>NAME</u>  | <u>ORGANIZATION REPRESENTED</u>                              | <u>INDIVIDUAL EXPERT</u> |
|--------------|--|--------------------------|
| Berger, E.H. | National Hearing Conservation<br>Association (S12 Alternate) |                          |





# ACOUSTICAL SOCIETY OF AMERICA

S3/368  
ATTACHMENT G-12

OFFICE OF THE  
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11 May 1993

GENERAL COMMENTS RECEIVED  
(OTHER THAN THOSE FROM STANDARDS  
COMMITTEES S1, S2, S3 OR S12)

The general comments received as a result of circulation of the S1 ballot on the proposed revision of the Acoustical Terminology standard (ansi s1.1-1960) - circulated on 26 March with a closing date of 7 May 1993 (LB/S1.1/380) are enclosed.

General comments were received as follows:

| <u>Name</u>     | <u>Affiliation</u>                                   |
|-----------------|--|
| Van Buren, A.L. | ASACOS representative;<br>TC on Underwater Acoustics |

## COMMITTEE CORRESPONDENCE

41 Byron Ave., Dorchester, ON, CANADA, N0L 1G0, Phone 519-268-3313, FAX 519-268-3256

### ASA STANDARDS COMMITTEE S3/WG80

4.25.93

Ms. Julia D. Royster Ph.D  
Chair S3, Bioacoustics  
4706 Connell Drive  
Raleigh NC 27612

Dear Julie:

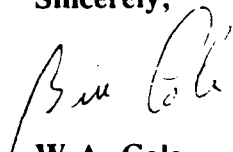
Thank you for your kind letter of January 29, welcoming me to the chairmanship of S3/WG80 and revealing the name (and gender) behind the initials J.D. As instructed, I have delayed sending my report until after our meeting in Phoenix. It follows:

*This WG met April 14, 1993 in Phoenix AZ with 15 members present. A report was given on the meeting of ISO/IEC JWG1 - Real Ear Measurements and Equipment, which was attended by the chairman and two members of S3/WG80. Prospects for harmonization of work appear to be good. Specific editorial comments re the working draft were addressed and draft text for two appendices was introduced for discussion. Experimental data regarding variability of real ear measurements were presented which supported the need for procedures to assess variability and guidance toward its reduction which is the focus of one of the appendices. Members will comment on the draft text presented and additional draft text for the appendices will be prepared and circulated before the next meeting.*

*The members of this WG have voted to hold the next meeting either before or after the fall ASA meeting in Denver with a preference for the latter. The exact date will be worked out in consultation with the chairs of WG 37 and 48.*

I am also enclosing an updated membership list as this group has grown in the last year.

Sincerely,



W.A. Cole  
Chair

cc ASA Standards Secretariat FAX 212-949-0473

15 May 1993

Dr. Avril Brenig  
Standards Manager,  
Acoustical Society of America  
335 East 45th St.  
New York NY 10017-3483

Subject: Report on activities of the US TAG for IEC/TC87  
(Ultrasonics).

Dear Dr. Brenig:

Since my last report on this topic (5 April 1993) there have been no meetings of the above TAG, but I have sent comments on the following three documents, which were listed in my April report.

1. 87/62D(Sec.)48/100 - Committee Draft: Ultrasonics - Physiotherapy Systems - Performance requirements and methods of measurement in the frequency range 0.5 MHz to 5 MHz.
2. 87(Central Office)26: Draft of IEC 1205 - Ultrasonics - Dental Descaler Systems - Measurement and Declaration of the Output Characteristics.
3. 87/62B(Sec.)51/195 - Committee Draft: Ultrasonics - Field safety - Part 1: Classification scheme for medical diagnostic fields.

The first and third of these reports were distributed to TAGs for both IEC 87 and 62 committees, by an agreement reached last year.

In respect to the first document, dealing with physiotherapy equipment, my primary recommendation was that the quantities to be declared should include an index of the temperature rise that would be produced in a patient during a treatment. Methods have been developed for obtaining a rough estimate of the temperature rise produced by a procedure involving diagnostic ultrasound; it is just as appropriate, if not more so, to provide analogous information to operators of physiotherapy equipment.

In respect to the second document, on dental descaler systems, I agreed to U.S. approval.

The third document is one in which the goal is to define "a safety class of diagnostic ultrasound field which can be used without concern for patient safety on thermal and cavitation grounds". In the USA, comparable definitions have been developed, after considerable time and effort, and are proving useful, though they are not ideal. The goal is a good one, but must be approached with care. The present draft proposes a peak negative pressure of

1 MPa as a safe level. More evidence is needed to support this proposal. I recommended against identifying a specific acoustic pressure level as "safe" at this time. I suspect that there will be quite a range of opinion on this matter.

Sincerely yours,



Wesley L. Nyborg  
Representative of ASA to U.S. TAG for IEC 87.

cc: J. Royster, S3  
G. Wong, S1  
W. Wright, Physical Acoustics



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S3/368  
ATTACHMENT J-1

## IEC/TC 29 ELECTROACOUSTICS U.S. Technical Advisor: V. Nedzelnitsky

Documents processed by the ASA Standards Secretariat from November 1992 through April 1993.

The following documents were received by the U.S. Member Body for VOTE AND/OR COMMENT:

| Coordinator   | TAG    | CENTRAL OFFICE (CO) DOCUMENTS  |
|---------------|--------|--|
| L.W. Sepmeyer | S1/S12 | <u>IEC/TC 29 (Central Office) 186</u> - Draft<br>IEC 225: Second Edition -<br>Electroacoustics - Octave-Band and<br>Fractional Octave Band Filters |

announced to S1 and S12 (S1/373) on 17 September 1992. The U.S. position, NEGATIVE WITH COMMENTS, was sent from USNC to IEC on 12 January 1993.

|                             |        |   |
|-----------------------------|--------|---|
| J. Tichy<br>V. Nedzelnitsky | S1/S12 | <u>IEC/TC 29 (Central Office) 185</u> - Draft<br>IEC 1043: Electroacoustics - Instruments<br>for the Measurement of Sound Intensity.<br>Measurements with Pairs of Pressure<br>Sensing Microphones. |
|-----------------------------|--------|---|

announced to S1 and S12 (S1/381) on 29 March 1993.

|           |        |   |
|-----------|--------|---|
| R.W. Krug | S1/S12 | <u>IEC/TC 29 (Central Office) 203</u> - Draft<br>IEC 651: Amendment 1: Sound Level<br>Meters. |
|-----------|--------|---|

announced to S1 and S12 on 14 May 1993.

|             |        |  |
|-------------|--------|--|
| Coordinator | TAG    | CENTRAL OFFICE (CO) DOCUMENTS  |
| R.W. Krug   | S1/S12 | <u>IEC/TC 29 (Central Office) 204</u> - Draft<br>IEC 804: Amendment 2: Integrating-<br>Averaging Sound Level Meters. |

announced to S1 and S12 on 14 May 1993.

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|                 |     |  |
|-----------------|-----|--|
| Coordinator     | TAG | SECRETARIAT DOCUMENTS  |
| V. Nedzelnitsky | S1  | <u>IEC/TC 29 (Secretariat) 256</u><br><u>1st CD: Measurement Microphones. Part</u><br><u>3: Primary method for free-field</u><br><u>calibration of Laboratory Standard</u><br><u>Microphones by the reciprocity</u><br><u>technique.</u> |

announced to S1 (S1/383) on 23 April 1993.

---

|               |       |  |
|---------------|-------|--|
| R.M. Campbell | S1/S3 | <u>IEC/TC 29 (Secretariat) 242</u><br><u>1st CD 318 Ear simulator for the</u><br><u>calibration of supra-aural earphones</u><br><u>(Revision of IEC 318:1970)</u>                        |
|               |       | <u>IEC/TC 29 (Secretariat) 243</u><br><u>1st CD 303 Acoustics coupler for the</u><br><u>calibration of supra-aural earphones used</u><br><u>in audiometry (Revision of IEC 303:1970)</u> |

announced to S1 and S3 (S1/376) on 2 November 1992. The U.S. position, NEGATIVE WITH  
COMMENTS, was submitted to USNC by the Technical Advisor on 6 January

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|             |    |  |
|-------------|----|--|
| R.L. Grason | S3 | <u>IEC/TC 29 (Secretariat) 244</u><br><u>Revision of IEC 645-3: Third CD:</u><br><u>Audiometers, Part 3: Methods for the</u><br><u>Specification of Auditory Test Signals of</u><br><u>Short Duration for Audiometric and</u><br><u>Neuro-Otological Purposes.</u> |
|-------------|----|--|

announced to S3 (S3/358) on 15 December 1992. The U.S. were sent to USNC from the  
Technical Advisor on 9 March 1993, and from USNC to IEC on 9 March 1993.

| Coordinator | TAG | SECRETARIAT DOCUMENTS   |
|-------------|-----|---|
| D.A. Preves | S3  | <u>IEC/TC 29 (Secretariat) 255</u><br><u>1st CD: Dimensions of electrical connector systems for hearing aids.</u> |

announced to S3 (S3/362) on 26 February 1993. The U.S. position, AFFIRMATIVE WITH COMMENTS, was submitted from USNC to IEC on 28 April 1993.

|             |    |  |
|-------------|----|--|
| D.A. Preves | S3 | <u>IEC/TC 29 (Secretariat) 252</u><br><u>Second CD 118-1: Hearing Aids with induction pick-up coil input audiometry.</u> |
|-------------|----|--|

announced to S3 (S3/363) on 8 March 1993. The U.S. position, ABSTAIN WITH COMMENTS, was submitted to L. Nielsen from USNC on 4 May 1993.

|             |    |   |
|-------------|----|---|
| R.L. Grason | S3 | <u>IEC/TC 29 (Secretariat) 253</u><br><u>IEC 654-4: Audiometers Part 4: Equipment for extended high frequency audiometry.</u> |
|-------------|----|---|

announced to S3 (S3/364) on 8 March 1993. The U.S. position, AFFIRMATIVE WITH COMMENTS, was submitted to USNC by the Technical Advisor on 26 April 1993, and from USNC to L. Nielsen on 4 May 1993.

#### OTHER ACTIONS

The U.S. Technical Advisor recommended to the USNC for IEC votes on fourteen (14) IEC Central Office Documents circulated for confirmation, revision or withdrawal, on 28 July 1992 (see following page):

LIST OF CENTRAL OFFICE (CO) DOCUMENTS, IEC  
STANDARDS/PUBLICATIONS, AND RECOMMENDED USNC/IEC VOTING POSITIONS

| CENTRAL OFFICE DOCUMENT | IEC STD./PUB. | REC. USNC/IEC VOTE |
|-------------------------|---------------|--------------------|
| 29 (CO) 171A            | 118-3 (1983)  | CONFIRMATION       |
| 29 (CO) 172A            | 118-4 (1981)  | REVISION           |
| 29 (CO) 173A            | 118-5 (1983)  | CONFIRMATION       |
| 29 (CO) 174A            | 118-6 (1983)  | CONFIRMATION       |
| 29 (CO) 175A            | 118-8 (1983)  | REVISION           |
| 29 (CO) 176A            | 118-9 (1985)  | CONFIRMATION       |
| 29 (CO) 177A            | 118-11 (1983) | ABSTAIN            |
| 29 (CO) 178A            | 126 (1973)    | REVISION           |
| 29 (CO) 179             | 184 (1965)    | WITHDRAWAL         |
| 29 (CO) 180             | 222 (1966)    | WITHDRAWAL         |
| 29 (CO) 181A            | 263 (1982)    | CONFIRMATION       |
| 29 (CO) 182             | 402 (1972)    | WITHDRAWAL         |
| 29 (CO) 183             | 537 (1976)    | WITHDRAWAL         |
| 29 (CO) 184A            | 711 (1981)    | REVISION           |



New Work Items proposed for IEC/TC 29:

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- IEC/TC 29 (U.K.) 105  
Proposal from the British Committee for an addition to the IEC 118 series of hearing aid standards.
  
- IEC/TC 29 (U.K.) 106  
Extension of EMC Measurements to cover the region 20 to 900 Hz for checking immunity of hearing aids.
  
- IEC/TC 29 (U.K.) 107  
Addendum to IEC 118-0 to cover the measurement of immunity of hearing aids from electromagnetic interference.

Votes on the above proposals are due at IEC (Geneva) by 31 July 1993.



**NIST**

**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Institute of Standards and Technology**  
Gaithersburg, Maryland 20899

**COMMITTEE CORRESPONDENCE**

**Building 233 (Sound), Room A147**

**May 13, 1993**

**REPORT TO: ASACOS, TAG for TC 29 Electroacoustics, and other  
directly and materially interested parties**

**From: Victor Nedzelnitsky, Sc.D.  
Technical Advisor to USNC/IEC  
for TC 29 Electroacoustics**

**SUBJECT: Activities concerning IEC/TC 29 since the previous  
report of the Technical Advisor**

1. The next meetings of TC 29 and many of its WGs are to be held in Oslo, Norway, from May 24-28, 1993. Registration material for delegates to the TC 29 meeting has been distributed for return to the Secretary, USNC/IEC; see the attached copy of my memo. dated April 14, 1993, for a list of USNC/IEC Delegates/Expert Members expected to attend.

2. Updated lists of the Roster of Delegates/Expert Members (including those who are not expected to attend the above Oslo meetings) and of the full Technical Advisory Group (TAG) were sent to the USNC/IEC, with the recommended appointment of Dr. David A. Preves as our Expert Member, and Mr. George J. Frye as our Alternate Expert Member, on WG 13 and WG 14 of TC 29. See the attached copy of my memo. dated April 16, 1993. An address correction was received subsequently:

Mr. Rufus L. Grason  
Lucas-GSI  
1 Westchester Drive  
Milford, NH 03055-3056  
(603) 672-0470, FAX: (603) 672-0487

2. Published copies of IEC International Standard 118-2 1983, Amendment 1 1993-02, Hearing aids, Part 2: Hearing aids with automatic gain control circuits, has been received by USNC/IEC. This Standard can be purchased at \$26.00 per

copy, plus shipping and handling, from USNC/IEC, 11 West 42nd Street, New York, NY 10036, telephone 212-642-4936, FAX (for sales only) 212-302-1286.

3. Documents received and/or processed for ballot or comment are announced via the ASA Standards Secretariat and are listed separately in the ASACOS/S1/S3 Minutes. Consequently, a list is not repeated in this report.

cc:

D. G. Eitzen

R. C. Geiseman

C. T. Zegers

Attachments.



**NIST**

UNITED STATES DEPARTMENT OF COMMERCE  
National Institute of Standards and Technology  
Gaithersburg, Maryland 20899

S3/368  
ATTACHEMNT K-3

COMMITTEE CORRESPONDENCE

Building 233 (Sound), Room A147

April 14, 1993

To: Robert C. Geiseman, Manager, USNC/IEC Electronics Group 4  
Charles T. Zegers, Secretary, USNC/IEC

From: Victor Nedzelnitsky, Sc.D. *V. Nedzelnitsky*  
Technical Advisor to USNC/IEC  
for TC 29, Electroacoustics

Subjects: (1) Composition of the U.S. delegation to the meetings  
of TC 29 and its WGs in Oslo, Norway, 24-28 May 1993  
  
(2) Return of my own completed  
registration/accommodation forms for these meetings  
(enclosed for Secretary Zegers only)

This transmission via express carrier to you contains the  
completed USNC/IEC form regarding the composition of the U.S.  
delegation to these meetings, including the list (as of 14 April,  
1993) of USNC/IEC Delegates/Expert Members that are expected to  
attend, and who are sending you their own completed  
registration/accommodation forms.

Also enclosed (for Secretary Zegers only) are my own completed  
registration forms for his signature and transmission via the  
appropriate channels.

In response to your prior request, I am completing an updated  
version of the full TAG (for TC 29) membership list that I expect  
to transmit to you via FAX very soon, perhaps tomorrow.

enc.

cc:

A. V. Brenig  
D. G. Eitzen  
J. D. Royster  
G. S. K. Wong

List (14 April, 1993) of USNC/IEC Delegates/Expert Members of TC 29  
Electroacoustics and its Working Groups Attending the May 1993 Oslo Meetings

| Primary Responsibilities<br>(by TC29 WG Numbers),<br>D - Delegate, A -<br>Alternate, 2A - 2nd<br>Alternate, L - Liaison | Name, Address, Phone/Fax Numbers  | Financing<br>(To Extent<br>Known)   |
|---|---|-------------------------------------|
| D, WG 3   | Mr. Richard H. Campbell<br>Bang-Campbell Associates<br>Three Water Street, Box 47<br>Woods Hole, MA 02543-0047  | David Clark<br>Co. and/or<br>Person |
| A, WG 3<br>A, WG 13<br>A, WG 14<br>D, JWG 1   | Mr. George J. Frye<br>Frye Electronics, Inc.<br>P.O. Box 23391<br>Tigard, OR 97223<br>(503) 620-2722  | Person or<br>Company                |
| 2A, WG 3<br>D, WG 10  | Mr. Rufus L. Grason<br>Grason Stadler Inc.<br>537 Great Road<br>P.O. Box 5<br>Littleton, MA 01460<br>(508) 486-3514, FAX: (508) 486-8059  | Person or<br>Company                |
| D, WG 4<br>A, WG 9<br>A, WG 12<br>2A, WG 17   | Mr. Robert W. Krug<br>Cirrus Research, Inc.<br>6818 W. State St., Suite 170<br>Wauwatosa, WI 53213<br>(414) 258-0717, FAX: (414) 258-0896   | Company                             |
| 2A, WG 4<br>2A, WG 9<br>3A, WG12<br>D, WG 17  | Mr. Theodore J. Kuemmel<br>Engineering Manager<br>Quest Electronics<br>510 South Worthington<br>Oconomowoc, WI 53066<br>(414) 567-9157, FAX: (414) 567-4047   | Company                             |
| D, WG 4<br>A, WG 9<br>D, WG 12<br>D, WG 15  | Mr. Alan H. Marsh<br>DyTec Engineering, Inc.<br>5092 Tasman Drive<br>Huntington Beach, CA 92649<br>(714) 891-1407, FAX: (714) 897-1611  | Person or<br>Company                |
| Chief D; USNC/IEC<br>Technical Advisor<br>for TC 29; D, WG 5;<br>D, WG 8; A, WG 17;<br>Other WGs as<br>necessary; OIML  | Dr. Victor Nedzelnitsky<br>Project Leader, Acoustic Calibrations<br>National Institute of Standards and<br>Technology (Formerly NBS)<br>Sound Bldg., Rm. A147<br>Gaithersburg, MD 20899-0001<br>(301) 975-6638<br>FAX: (301) 417-0514 or (301) 869-3536 | NIST                                |

|  |   |                         |
|--|---|-------------------------|
| 2A, WG 4<br>2A, WG 9<br>3A, WG12<br>D, WG 17   | Mr. Theodore J. Kuemmel<br>Engineering Manager<br>Quest Electronics<br>510 South Worthington<br>Oconomowoc, WI 53066<br>(414) 567-9157, FAX: (414) 567-4047   | Company                 |
| D, WG 4<br>A, WG 9<br>D, WG 12<br>D, WG 15   | Mr. Alan H. Marsh<br>DyTec Engineering, Inc.<br>5092 Tasman Drive<br>Huntington Beach, CA 92649<br>(714) 891-1407, FAX: (714) 897-1611  | Person or<br>Company    |
| Chief D; USNC/IEC<br>Technical Advisor<br>for TC 29; D, WG 5;<br>D, WG 8; A, WG 17;<br>Other WGs as<br>necessary; OIML | Dr. Victor Nedzelnitsky<br>Project Leader, Acoustic Calibrations<br>National Institute of Standards and<br>Technology (Formerly NBS)<br>Sound Bldg., Rm. A147<br>Gaithersburg, MD 20899-0001<br>(301) 975-6638<br>FAX: (301) 417-0514 or (301) 869-3536 | NIST                    |
| D, WG 13<br>D, WG 14<br>A, WG 15   | Dr. David A. Preves<br>Argosy Electronics, Inc.<br>10300 West 70th Street<br>Eden Prairie, MN 55344<br>(612) 942-9232, FAX: (612) 942-0503  | HIA                     |
| D, WG 9  | Mr. Ludwig W. Sepmeyer<br>Consulting Engineer<br>1862 Comstock Ave.<br>Los Angeles, CA 90025<br>(310) 277-3210  | Person                  |
| D, WG 11   | Prof. Jiri Tichy<br>P.O. Box 30<br>Graduate Program in Acoustics<br>Pennsylvania State University<br>Applied Research Lab.<br>University Park, PA 16802<br>(814) 865-6364   | Person or<br>University |
| A, WG 3  | Mr. Allen K. Woo<br>Plantronics<br>345 Encinal Street<br>Santa Cruz, CA 95060-2132<br>(408) 426-5858 x351<br>FAX: (408) 458-0423  | Company                 |

L w/TC1 activity  
rel. to TC 29  
A, WG 4  
2A, WG 12

Dr. Robert W. Young  
Consultant in Acoustics  
1696 Los Altos Road  
San Diego, CA 92109  
(619) 273-8732

Person

Alternates for IEC TC 29 - ISO TC 43 JWG 1:

1A JWG 1

Dr. Laura A. Wilber  
422 Skokie Boulevard  
Wilmette, IL 60091  
(719) 632-9331

Person

2A JWG 1

Dr. Christopher Schweitzer  
Family Hearing Center  
D. A. Smith Lab.  
Karistech, Inc.  
3004 Folsom  
Boulder, CO 80304  
(303) 443-9786

Company

3A JWG 1

Mr. Lawrence J. Revit  
Frye Electronics, Inc.  
P. O. Box 23391  
Tigard, OR 97223  
(503) 620-2722

Company



**NIST**

UNITED STATES DEPARTMENT OF COMMERCE  
National Institute of Standards and Technology  
Gaithersburg, Maryland 20899

COMMITTEE CORRESPONDENCE

Building 233 (Sound), Room A147

April 16, 1993

To: Robert C. Geiseman, Manager, USNC/IEC Electronics Group 4  
Charles T. Zegers, Secretary, USNC/IEC

From: Victor Nedzelnitsky, Sc.D.  
Technical Advisor to USNC/IEC  
for TC 29, Electroacoustics

*V. Nedzelnitsky*

Subjects: (1) Update of full Technical Advisory Group (TAG)  
membership list for TC 29  
  
(2) Recommended appointment of Dr. David A. Preves as  
our Expert Member, and Mr. George J. Frye as our  
Alternate Expert Member, on WG 13 and WG 14 of TC 29

This transmission via FAX to you will be followed by a clean copy  
via first class mail, which should be more legible than the FAX.

The TAG consists of the enclosed Roster (as of 15 April, 1993) of  
Delegates/Expert Members, as well as the membership of the ANSI-  
accredited (administered by the ASA) Standards Committees S1,  
Acoustics, and S3, Bioacoustics. Enclosed are listings of the  
memberships of these committees, categorized by "Organizational  
Representation" and "Individual Experts." These listings have  
been copied from the current (No. 2-1989) ASA Standards  
Directory; changes since its publication are recorded by, and  
available from, the ASA Standards Secretariat.

When possible, the Delegates/Expert Members on the Roster have  
been selected from the Chairs of the Working Groups (WGs) of S1  
and S3 that most nearly correspond to the principal IEC areas of  
responsibility of those Delegates/Expert Members. In cases where  
such Chairs are unable to travel (usually because of travel  
funding problems), Delegates/Expert Members are selected who are  
almost invariably active and capable members of these  
corresponding S1 and S3 WGs, and who cooperate with their Chairs  
in the IEC and ANSI standardization work. For your information,  
listings of the Scopes, WGs, and names of Chairs of these WGs are  
also enclosed. These listings are from (ASA-distributed)  
documents S1/375 and S3/355, the Minutes (with attachments) of  
the 3 November, 1992 meetings of S1 and S3 in New Orleans.

Occasionally it is necessary on short notice to solicit comments  
or recommendations for vote on IEC documents from directly and



materially interested parties who are not necessarily in this TAG. One example is the Hearing Industries Association (HIA): with the excellent administrative support of Carole M. Rogin of HIA, comments/recommendations on documents concerning hearing aids have been obtained by HIA. HIA has also acted to support travel of Dr. David A. Preves, the Chair of S3/WG 48 Hearing Aids, to meetings of pertinent IEC WGs including TC 29/WG 13, Supplement to IEC 118-2: Hearing aids with automatic gain control circuits, and TC 29/WG 14, Addendum to IEC 118-0 (1983) and IEC 118-7 (1983). This is a noteworthy example of industry cooperation in supporting standardization efforts.

From document 29(Sec.)247, the IEC list of members in TC 29 WGs, our Expert Memberships in WG 13 and WG 14 have been vacant since the resignation of William Balmer. Please secure the appointment of Dr. Preves as our Expert Member, and of Mr. Frye as our Alternate Expert Member, on WG 13 and WG 14. Their addresses and telephone numbers are on the enclosed Roster.

enc.

cc:

- A. V. Brenig (without S1 and S3 membership and WG lists)
- D. G. Eitzen
- G. J. Frye
- D. A. Preves
- J. D. Royster (without S1 and S3 membership lists)
- G. S. K. Wong (without S1 and S3 membership lists)

Roster (15 April, 1993) of USNC/IEC Delegates/Expert Members of  
TC 29 Electroacoustics and its Working Groups

| Primary Responsibilities<br>(by TC29 WG Numbers),<br>D - Delegate, A -<br>Alternate, 2A - 2nd<br>Alternate, L - Liaison | Name, Address, Phone/Fax Numbers   | Financing<br>(To Extent<br>Known)   |
|---|--|-------------------------------------|
| L w/ISO<br>TC 43 activity<br>for JWG 1<br>2A, WG 13<br>2A, WG 14  | Mr. Jeremy Agnew<br>Starkey Laboratories<br>3020 North El Paso<br>Colorado Springs, CO 80907<br>(719) 632-9331   | Company                             |
| D, WG 15  | Mr. Donald W. Boston<br>Boeing Commercial Airplanes<br>Data System Development<br>Mail Code 1W03,<br>P. O. Box 3707<br>Seattle, WA 98124-2207<br>(206) 544-1015, FAX: (206) 655-0523 | Company                             |
| D, WG 3   | Mr. Richard H. Campbell<br>Bang-Campbell Associates<br>Three Water Street, Box 47<br>Woods Hole, MA 02543-0047<br>(508) 540-1309, FAX: (508) 540-8347                                | David Clark<br>Co. and/or<br>Person |
| L w/ISO activity<br>rel. to WG 11<br>A, WG 11   | Prof. Malcolm J. Crocker<br>Dept. of Mechanical Engineering<br>Auburn University<br>Auburn, AL 36849<br>(205) 844-3310, FAX: (205) 844-3307  |                                     |
| A, WG 3<br>A, WG 13<br>A, WG 14<br>D, JWG 1   | Mr. George J. Frye<br>Frye Electronics, Inc.<br>P.O. Box 23391<br>Tigard, OR 97223<br>(503) 620-2722   | Person or<br>Company                |
| 2A, WG 3<br>D, WG 10  | Mr. Rufus L. Grason<br>Grason Stadler Inc.<br>537 Great Road<br>P.O. Box 5<br>Littleton, MA 01460<br>(508) 486-3514, FAX: (508) 486-8059   | Person or<br>Company                |
| D, WG 4<br>A, WG 9<br>A, WG 12<br>2A, WG 17   | Mr. Robert W. Krug<br>Cirrus Research, Inc.<br>6818 W. State St., Suite 170<br>Wauwatosa, WI 53213<br>(414) 258-0717, FAX: (414) 258-0896  | Company                             |

|   |       |   |                         |
|---|-------|---|-------------------------|
| D,                                      | WG 9  | Mr. Ludwig W. Sepmeyer<br>Consulting Engineer<br>1862 Comstock Ave.<br>Los Angeles, CA 90025<br>(310) 277-3210  | Person                  |
| D,                                      | WG 11 | Prof. Jiri Tichy<br>P.O. Box 30<br>Graduate Program in Acoustics<br>Pennsylvania State University<br>Applied Research Lab.<br>University Park, PA 16802<br>(814) 865-6364 | Person or<br>University |
| A,                                      | WG 3  | Mr. Allen K. Woo<br>Plantronics<br>345 Encinal Street<br>Santa Cruz, CA 95060-2132<br>(408) 426-5858 x351<br>FAX: (408) 458-0423  | Company                 |
| L w/TCI activity<br>rel. to TC 29<br>A, | WG 4  | Dr. Robert W. Young<br>Consultant in Acoustics<br>1696 Los Altos Road<br>San Diego, CA 92109<br>(619) 273-8732  | Person                  |
| 2A,                                     | WG 12 |   |                         |



# ACOUSTICAL SOCIETY OF AMERICA

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S3/368  
ATTACHMENT L-1

## ISO/TC 43 ACOUSTICS and ISO/TC 43/SC1 NOISE

U.S. TAG Chair: H.E. von Gierke

U.S. TAG Vice Chair: P.D. Schomer

### Documents processed by the ASA Standards Secretariat from October through April 1993

The following documents were received for VOTE AND/OR COMMENT by the U.S. Member Body:

| Technical Coordinator | TAG | DRAFT INTERNATIONAL STANDARDS (DIS)  |
|-----------------------|-----|--|
| J.B. Malosh           | S12 | <u>ISO/DIS 5135</u> : Acoustics - Determination of sound power levels of noise from air terminal units, dampers and valves by measurement in a reverberation room. |

announced to S12 (S12/246) on 15 October 1992. The U.S. position, AFFIRMATIVE WITH COMMENTS, was submitted to ANSI on 8 December 1992, and from ANSI to ISO on 15 December 1992.

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|               |           |   |
|---------------|-----------|---|
| L.A. Jennings | S1/S3/S12 | <u>ISO/DIS 5131</u> : Acoustics - Tractors and machinery for agriculture and forestry - Measurement of noise at the operator's position - Survey method |
|---------------|-----------|---|

announced to S1, S3, and S12 (S1/379). The U.S. position, AFFIRMATIVE WITH COMMENTS, was sent to ANSI on 12 April 1993, and from ANSI to ISO on 20 April 1993.

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| Technical Coordinator | TAG | DRAFT INTERNATIONAL STANDARDS (DIS)  |
|-----------------------|-----|--|
| R.M. Guernsey         | S12 | <p><u>ISO/DIS 11546-1</u>: Acoustics - Determination of sound insulation performances of enclosures <u>Part 1</u>: Measurements in small enclosures under laboratory conditions</p> <p><u>ISO/DIS 11546-2</u>: Acoustics - Determination of sound insulation performances of enclosures <u>Part 2</u>: Measurements of in situ sound insulation performance of enclosures (for acceptance/verification purposes)</p> |

announced to S12 (S12/253) on 15 January 1993. The U.S. position, AFFIRMATIVE WITH COMMENTS was submitted to ANSI on 7 May 1993.

|             |     |   |
|-------------|-----|---|
| B.M. Brooks | S12 | <p><u>ISO/DIS 11690-1</u>: Acoustics - Recommended practice for the design of low-noise workplaces <u>Part 1</u>: Noise control strategies.</p> <p><u>ISO/DIS 11690-2</u>: Acoustics - Recommended practice for the design of low-noise workplaces <u>Part 2</u>: Noise control measures.</p> |
|-------------|-----|---|

announced to S12 (S12/254) on 15 January 1993. The U.S. position, AFFIRMATIVE WITH COMMENTS, was submitted to ANSI on 5 May 1993, and from ANSI to ISO on 6 May 1993.

|            |     |   |
|------------|-----|---|
| P.K. Baade | S12 | <p><u>ISO/DIS 3746</u>: Acoustics - Determination of sound power levels of noise sources. Survey method employing and enveloping measurement surface over a reflecting plane.</p> |
|------------|-----|---|

announced to S12 (S12/264) on 17 February 1993. The U.S. position, AFFIRMATIVE WITH COMMENTS, was submitted to ANSI on 10 May 1993.

| Technical Coordinator                                 | TAG | DRAFT INTERNATIONAL STANDARD (DIS)  |
|---|-----|---|
| R. Lotz   | S12 | <u>ISO/DIS 10302</u> : Acoustics - Measurement for the measurement of airborne noise emitted by small air-moving devices.   |
| announced to S12 ( <u>S12/270</u> ) on 27 April 1993. |     |   |
| A. Konheim  | S12 | <u>ISO/DIS 3095</u> : Acoustics - Measurement of noise emitted by railbound vehicles.   |
| announced to S12 ( <u>S12/267</u> ) on 16 March 1993. |     |   |
| R.F. Schumacher                                       | S12 | <u>ISO/DIS 6798</u> : Acoustics - Test code for the measurement of airborne noise emitted by reciprocating internal combustion engines. Engineering method and survey method.   |
| announced to S12 ( <u>S12/271</u> ) on 27 April 1993. |     |   |
| S.I. Roth   | S12 | <u>ISO/DIS 11200</u> : Acoustics - Noise emitted by machinery and equipment. Guidelines for the use of basic standards for the determination of emission sound pressure levels at the work station and at other specified positions.                      |
| announced to S12 ( <u>S12/272</u> ) on 30 April 1993. |     |   |
| S.I. Roth   | S12 | <u>ISO/DIS 11201</u> : Acoustics - Noise emitted by machinery and equipment. Measurement of emission sound pressure levels at the work station and at other specified positions. Engineering method in an essentially free field over a reflecting plane. |

announced to S12 (S12/273) on 30 April 1993.

| Technical Coordinator | TAG | DRAFT INTERNATIONAL STANDARDS (DIS)  |
|-----------------------|-----|--|
| S.I. Roth             | S12 | <u>ISO/DIS 10203</u> : Acoustics - Noise emitted by machinery and equipment. Determination of emission sound pressure levels at the work station and at other specified positions. |

announced to S12 (S12/275) on 30 April 1993.

|           |     |   |
|-----------|-----|---|
| S.I. Roth | S12 | <u>ISO/DIS 11202</u> : Acoustics - Noise emitted by machinery and equipment. Measurement of emission sound pressure levels at the work station and at other specified positions. Survey method in situ. |
|-----------|-----|---|

announced to S12 (S12/274) on 30 April 1993.

|           |     |  |
|-----------|-----|--|
| S.I. Roth | S12 | <u>ISO/DIS 11204</u> : Acoustics - Noise emitted by machinery and equipment. Measurement of emission sound pressure levels at the work station and at other specified positions. Method requiring environmental corrections. |
|-----------|-----|--|

announced to S12 (S12/276) on 30 April 1993.

|           |     |  |
|-----------|-----|--|
| S.I. Roth | S12 | <u>ISO/DIS 12001</u> : Acoustics - Noise emitted by machinery and equipment. Rules for the drafting and presentation of a noise test code. |
|-----------|-----|--|

announced to S12 (S12/277) on 30 April 1993.

| Technical Coordinator | TAG | DRAFT INTERNATIONAL STANDARDS (DIS)   |
|-----------------------|-----|---|
| R.M. Guernsey         | S12 | <u>ISO/DIS 11691</u> : Acoustics - Measurements of insertion loss of ducted silencers without flow. Laboratory survey method. |

announced to S12 (S12/266) on 16 March 1993.

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| Technical Coordinator | TAG | COMMITTEE DRAFTS (CD)   |
|-----------------------|-----|---|
| M.J. Crocker          | S12 | <u>ISO/CD 9614-2</u> : Acoustics - Determination of sound power levels of noise sources using sound intensity. <u>Part 2</u> : Measurement by scanning. |

announced to S12 (S12/255) on 30 December 1992. The U.S. position, NEGATIVE WITH COMMENTS, was submitted to ANSI on 9 February 1993, and from ANSI to ISO on 11 February 1993.

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|              |     |   |
|--------------|-----|---|
| P.D. Schomer | S12 | <u>ISO/CD 11820</u> : Acoustics - Testing of silencers in situ. |
|--------------|-----|---|

announced to S12 (S12/257) on 30 December 1992. The U.S. position, AFFIRMATIVE WITH COMMENTS, was submitted to ANSI on 9 February 1993, and from ANSI to ISO on 11 February 1993.

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|              |     |   |
|--------------|-----|---|
| P.D. Schomer | S12 | <u>SECOND ISO/CD 10843</u> : Acoustics - Methods for the measurement of single bursts of noise. |
|--------------|-----|---|

announced to S12 (S12/260) on 22 January 1993. The U.S. position, AFFIRMATIVE WITHOUT COMMENTS, was submitted to ANSI on 24 February 1993, and from ANSI to ISO on 17 March 1993.

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| Technical Coordinator | TAG | COMMITTEE DRAFTS (CD)   |
|-----------------------|-----|---|
| S.I. Roth             | S12 | <u>SECOND ISO/CD 11821: Acoustics - Measurement of the in situ sound attenuation of a removable screen.</u> |

announced to S12 (S12/261) on 22 January 1993. The U.S. position, NEGATIVE WITH COMMENTS, was submitted to ANSI on 1 March 1993, and from ANSI to ISO on 5 March 1993.

|             |     |  |
|-------------|-----|--|
| B.M. Brooks | S12 | <u>FIRST ISO/CD 11690-3: Recommended practice for the design of low-noise workplaces. Part 3: Sound propagation and noise prediction in workshops.</u> |
|-------------|-----|--|

announced to S12 (S12/262) on 22 January 1993. The U.S. position, AFFIRMATIVE WITH COMMENTS, was submitted to ANSI on 2 March 1993, and from ANSI to ISO on 5 March 1993.

|              |     |  |
|--------------|-----|--|
| P.D. Schomer | S12 | <u>SECOND ISO/CD 11688-1: Acoustics - Recommended practice for the design of low-noise machinery and equipment. Part 1: Planning.</u>                    |
|              |     | <u>SECOND ISO/CD 11688-2: Acoustics - Recommended practice for the design of low-noise machinery and equipment. Part 2: Noise generation principles.</u> |

announced to S12 (S12/263) on 22 January 1993. The U.S. position, AFFIRMATIVE WITH COMMENTS, was submitted to ANSI on 2 March 1993, and from ANSI to ISO on 5 March 1993.

|             |    |   |
|-------------|----|---|
| L.A. Wilber | S3 | <u>SECOND ISO/CD 226-1: Acoustics - Equal Loudness level contour for otologically normal listeners. Part 1: Reference threshold of hearing under free-field and diffuse-field listening conditions.</u> |
|-------------|----|---|

announced to S3 (S3/361) on 26 February 1993. The U.S. position, AFFIRMATIVE WITH COMMENTS, was submitted to ANSI on 8 March 1993, and from ANSI to ISO on 21 April 1993.

DOCUMENTS CIRCULATED AD-HOC

| DOCUMENT            | TITLE  | COORDINATOR(S)          | COMMITTEE |
|---------------------|--|-------------------------|-----------|
| <u>ISO/CD 10847</u> | Acoustics - Determination of insertion loss of outdoor noise barriers of all types | W. Bowlby<br>G. Fleming | S12       |

sent to G. Fleming on an ad-hoc basis (S12 Ad-Hoc 1) on 8 February 1993. The U.S. position, ABSTENTION WITH COMMENTS, was submitted to ANSI on 6 April 1993, and from ANSI to ISO on 19 April 1993.

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OTHER ACTIONS:

ISO/TC 43/SC1 Noise-Representation from the United States.

---

(1) ISO/TC 43/WG5 - Hearing Conservation Programs

U.S. Convener:      L.H. Royster  
North Carolina State University  
Department of Mechanical and Aerospace Engineering  
P.O. Box 7910  
Raleigh, North Carolina 27695-7910  
Tel: (919) 782-1624  
Fax: (919) 781-2396

U.S. Member:      J.D. Royster  
P.O. Box 30698  
Raleigh, North Carolina 27622-0698  
Tel: (919) 782-1624

(2) ISO/TC 43/SC1/WG36 - Methods for the Determination of acoustical performance of noise attenuation devices:

U.S. Member(s):      D.B. Nelson  
Sandia Laboratory Division 8413  
Livermore, California 94550  
Direct Tel: (415) 455-2091  
General Tel: (415) 455-7011 ext. 2091

R.M. Guernsey  
Director  
R.M. Guernsey and Associates  
P.O. Box 1517  
20 Northbridge Place  
Morristown, New Jersey 07960-1517  
Tel: (201) 267-7037

Douglas D. Reynolds, Alternate  
3939 Briar Crest Court  
Las Vegas, Nevada 89120  
Tel: (702) 458-1681

OTHER ACTIONS  
(continued)

(3) ISO/TC 43/SC1/WG41 - Sirens

U.S. Member:      Richard Morrow  
Whelan Engineering  
Route 145  
Winthrop Road  
Chester, Connecticut 06412  
Tel: (203) 526-9504  
Fax: (203) 526-4078

Alternate:      P.D. Graham  
Manager of Research & Development  
Signal Division Federal Signal Corporation  
2615 Federal Signal Drive  
University Park, Illinois 60466  
Tel: (708) 534-4739

March 29, 1993

standard\ansi\_93.rpt

The following is the reports by Paul Schomer for S12 WG1, WG15, WG32 and TC43 and SC1.

**S12 WG1:**

Efforts have continued on methods to streamline the functioning of the S12 Committee. In S12 we face three formidable tasks. First, we face the huge challenge of representing US interests and ANSI in ISO. Overall, there are over 50 documents under some stage of development within ISO TC 43/SC 1 which fall under the purview of the S12 committee. Second, we have the continuing need to identify priorities for new work and to critically examine existing Standards as they come due for review. Finally we must increase our efforts to coordinate ANSI, ISO, and other documents and better insure that conflicting requirements and definitions do not reach the public.

In an attempt to better perform these three tasks, we are organizing our S12 effort into 7 major technical thrust areas. Each area will have an area leader or, in a few cases, two co-leaders. It will be the task of these technical area leaders to:

1. Recommend new work efforts and documents requiring updating in their area.
2. Coordinate among the different documents in the technical area including ANSI, ISO and other Standards documents, identify conflicts, and develop plans and work to eliminate any conflicts.
3. Coordinate and streamline US input to ISO documents by maintaining cognizance of ongoing work efforts. Develop a core group of individuals who will be able and willing to coordinate and provide meaningful input to US review. Assist the S-12 Chair with the identification of US delegates to ISO working groups and meetings.

Note: The technical area leaders are not expected to do all the coordination of the US review. Rather, it is expected that they will help identify and establish a group of people who will comment on documents in their area, and a smaller group who will assist with the coordination of documents.

Our division into technical areas and leaders is:

|   | S12<br>WGs                   | ISO SC 1<br>WGs         | Technical Area  | Leader(s)                     |
|---|------------------------------|-------------------------|---|-------------------------------|
| A | 23, 21,3<br>30, 33<br>L1, L2 | 13, 23*<br>25<br>28, 22 | sound power,<br>rating, labelling                                 | J. Malosh                     |
| B | 10<br>11<br>12, 19           | 17<br>19<br>TC 43/WG5   | hearing conservation  | Berger                        |
| C | 9, 15<br>22, 27<br>31, 32    | 24<br>26<br>30          | environmental<br>(propagation,<br>assessment)                     | Sutherland                    |
| D | 7<br>20<br>8                 | 23*<br>34<br>35         | work-place design<br>noise at the operator<br>low-noise machinery | Brooks<br>Roth                |
| E | 6<br>L3                      | 27<br>29<br>32, 33      | vehicle noise   | Konheim<br>Schumacher         |
| F | 18<br>L5                     | 31<br>36<br>new HVAC    | noise attenuaters<br>building acoustics                           | Guernsey                      |
| G | 1<br>2<br>L4, L6             | 37<br>new               | construction<br>aircraft<br>other                                 | Chair, S12<br>vice-Chair, S12 |

- \* Split responsibility; sound power to Area A, sound pressure at the operator or bystander to Area D.

**TC 43 and TC 43/SC1**

**We are well prepared for the upcoming meeting in Oslo (31 May to 4 June); we have the largest U.S. delegation in recent memory. We have processed or are processing about 25 ISO documents in the last 6 months - an almost unbelievable rate. The new subgroups to S12 are beginning to help in the process.**

**More help is still needed - especially in the area of work-place noise and quiet factories. Steve Roth and Bennett Brooks are doing a great job with documents (they, and especially Steve) have taken about 1/2 of the ISO load; but I am sure they would appreciate additional help.**

**In all of the areas, the more comments we get on ISO documents, the better we can make our U.S. input.**

**We are always looking for additional people who can actively participate in working groups and travel frequently to Europe.**

**P.D. Schomer  
Vice Chair  
U.S. TAG for ISO/TC 43 and  
ISO/TC 43/SC1**



# ACOUSTICAL SOCIETY OF AMERICA

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**S3/368**  
**ATTACHMENT N-1**

**ISO/TC 108 MECHANICAL VIBRATION AND SHOCK**  
**(and SUBCOMMITTEES SC1, SC2, SC3, and SC4)**  
**(U.S. Technical Advisor, D. Muster for TC 108)**

Documents processed by the ASA Standards Secretariat from October 1992 through April 1993:

The following documents were received for VOTE AND COMMENT by the U.S. Member Body:

| Technical Coordinator | TAG | DRAFT INTERNATIONAL STANDARD(S) (DIS)   |
|-----------------------|-----|---|
| D.G. Stadelbauer      | S2  | <u>ISO/DIS 11342</u> : Mechanical Vibration - Methods and criteria for the mechanical balancing of flexible rotors. |

announced to S2 (S2/244) on 15 September 1992. The U.S. position, **AFFIRMATIVE WITH COMMENTS**, was submitted to ANSI on 9 December 1992, and from ANSI to ISO on 10 December 1992.

|             |    |   |
|-------------|----|---|
| P.H. Maedel | S2 | <u>ISO/DIS 10816-1</u> : Mechanical Vibration - Evaluation of machine vibration by measurements on non-rotating parts. <u>Part 1</u> : General Guidelines |
|-------------|----|---|

will be announced to S2 (S2/) on 31 May 1993.

| Technical Coordinator | TAG | COMMITTEE DRAFTS (CD)  |
|-----------------------|-----|--|
| H.E. von Gierke       | S3  | <u>Fourth Committee Draft ISO/CD 2631</u> : Guide to the evaluation of human exposure to whole-body vibration. |

announced to S3 (TAG for ISO/TC 108/SC4) (S3/360) on 21 January 1993. The U.S. vote, **AFFIRMATIVE WITH COMMENTS**, was submitted to ANSI on 2 March 1993.



## OTHER ACTIONS

1. **Scope of ISO/TC 108 and proposed scope change for  
Accredited Standards Committee S2**

See under ISO/TC 108 activities, on page of the Minutes (S2/251).

2. **New Work Item Proposals (NWIPs) for ISO/TC 108**

Ten (10) new work item proposals (NWIPs), ISO/TC 108 N 605-N 614, were circulated by the Secretariat of ISO/TC 108 to P and O Members on 17 August 1992. The ballot closed on 17 November 1992 and the work items were summarized in TC 108 N 615, circulated to S2 for vote (and detailed in the S2/247 Minutes).

3. **Review of various ISO/TC 108 standards**

The following list of standards was received from ISO for review by ISO/TC 108, ISO/TC 108/SC1, ISO/TC 108/SC2, ISO/TC 108/SC3, and ISO/TC 108/SC4:

- **ISO 2017: 1982**      Vibration and shock - Isolators - Procedure for specifying characteristics
- **ISO 5344: 1980**      Electrodynamic test equipment for generating vibration - Methods of describing equipment characteristics
- **ISO 5406: 1980**      The mechanical balancing of flexible rotors
- **ISO 5983: 1981**      Vibration and shock - Mechanical driving point impedance of the human body
- **ISO 6070: 1981**      Auxiliary tables for vibration generators - Methods of describing equipment characteristics
- **ISO/5347-0: 1987**      Methods for the calibration of vibration and shock pick-ups  
Part 0: Basic concepts
- **ISO 5348: 1987**      Mechanical vibration and shock - Mechanical mounting of accelerometers
- **ISO 7962: 1987**      Mechanical vibration and shock - Mechanical transmissibility of the human body in the z direction

At the ISO/TC 108 meeting held in London, U.K. (22 March to 2 April 1993), it was decided to confirm the following ISO Standards:

- ISO 8042: 1988 Shock and Vibration Measurements - characteristics to be specified for seismic pick-ups
- ISO 6070: 1981 Auxiliary tables for vibration generators. Methods of describing equipment characteristics.
- ISO 2954: 1975 Mechanical vibration of rotating and reciprocating machinery. Requirements for instruments for measuring vibration.
- ISO 2372: 1974 Mechanical vibration of machines with operating speeds from 10 to 200 rev/s. Basis for specifying evaluation standards Amendment 1-1983.



# ACOUSTICAL SOCIETY OF AMERICA

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S3/368  
ATTACHMENT O-1

14 April 1993

TO: J.D. Royster, Chair S3

Re: Letter Ballot LB/S3/359 sent to the Accredited  
Standards Committee S3 on 29 January 1993,  
and closed on 12 March 1993

SUBJECT: Approval of reaffirmation of three (3) Standards, given in  
ATTACHMENT A

Enclosed please find tally of the above letter ballot, showing results  
as follows:

## CLASSIFICATION OF MEMBERS

|                   |      |                       |      |
|-------------------|------|-----------------------|------|
| AFFIRMATIVE VOTES | 11   | P - PRODUCER          | 5    |
| NEGATIVE VOTES    | 0    | C - CONSUMER          | 9    |
| ABSTENTIONS       | 3    | G - GOVERNMENT        | 3    |
| NOT RETURNED      | 8    | GI - GENERAL INTEREST | 5    |
|                   | ---- |                       | ---- |
| TOTAL             | 22   | TOTAL                 | 22   |

NOTE: A NEGATIVE RESPONSE WAS RECEIVED FROM T. FRANK (ASA ALTERNATE)  
ON ONE STANDARD ONLY, ANSI S3.26-1981. HIS COMMENTS ARE  
ATTACHED. A BALLOT TO WITHDRAW ANSI S3.26-1981 WAS THEREFORE  
SENT TO S3 ON 24 MARCH 1993 (LB/S3/366). THIS BALLOT WILL CLOSE  
ON 7 MAY 1993.

COPIES OF ALL COMMENTS ARE ATTACHED

- 2 -

Letter Ballot S3/359

Continuation of results of letter ballot S3/359:

AFFIRMATIVE VOTES:

|                |  |
|----------------|--|
| Atack, R.M.    | U.S. Army Medical Corps.                                     |
| Bennett, J.L.  | Power Tool Institute, Inc.                                   |
| Bohl, C.D.     | American Industrial Hygiene Association                      |
| Burkard, R.F.  | American Speech-Language-Hearing Association                 |
| Garinther, G.  | U.S. Army Human Engineering Laboratory                       |
| Mayer, M.S.    | AT&T   |
| Michel, G.C.   | Bruel & Kjaer Instruments, Inc.                              |
| Naunton, R.F.  | American Otological Society, Inc.                            |
| Nixon, C.      | U.S. Dept. of the Air Force                                  |
| Royster, J.D.  | Acoustical Society of America                                |
| Toothman, E.H. | Fastener Industry Noise Control<br>Research Program (FINCRP) |

NEGATIVE VOTES:

NONE

ABSTENTIONS:

|                 |   |
|-----------------|---|
| Addington, J.H. | Compressed Air and Gas Institute              |
| Bovi, A.M.      | Industrial Safety Equipment Association, Inc. |
| Campell, R.     | Audio Engineering Society, Inc.               |

- 3 - Letter Ballot S3/359

Continuation of results of letter ballot S3/359:

NOT RETURNED:

|                  |   |
|------------------|---|
| Brownson, P.J.   | American College of Occupational Medicine                   |
| Burnett, E.D.    | National Institute of Standards and<br>Technology           |
| Conger, C.D.     | Hearing Industries Association (HIA)                        |
| Hopmeier, W.F.S. | National Hearing Aid Society                                |
| Michael, L.A.    | American Academy of Otolaryngology<br>Head and Neck Surgery |
| Page, J.         | U.S. Dept. of the Navy,<br>BUREAU OF MEDICINE AND SURGERY   |
| Patterson, J.H.  | U.S. Army Aeromedical Res. Lab.                             |
| Zagzebski, J.    | American Institute of Ultrasound<br>in Medicine             |

LATE RESPONSE:

NONE

Avril Brenig  
Standards Manager

cc: Vice Chair, Standards Committee  
Chair and Vice Chair, ASACOS  
Chair, Working Group



# ACOUSTICAL SOCIETY OF AMERICA

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S3/368  
ATTACHMENT O-4

IMMEDIATE RETURN REQUESTED

LB/S3/359  
29 January 1993

Return to: Letter Ballot Department  
Due date: 12 March 1993

## ADMINISTRATIVE LETTER BALLOT ACCREDITED STANDARDS COMMITTEE ON BIOACOUSTICS, S3

Topic: Approval of reaffirmation of three (3) S3 Standards, given in ATTACHMENT A

Approved by: J.D. Royster, Chair S3

Distributed by: A. Brenig, ASA Standards Manager

Reference Document(s):

ATTACHMENT A List of three (3) S3 standards proposed for reaffirmation by S3.

### Background Information:

Section 4.4 of the ANSI Procedure for Development and Coordination of American National Standards requires that each complete American National Standard (including its supplements and addenda) be reviewed at least every five years to determine whether it should be reaffirmed, revised or withdrawn. Provision is made for extensions of time, except that no extension is granted beyond ten (10) years from the date of approval by ANSI.

The Chair of the S3 Committee, J.D. Royster, recommends that the three (3) standards listed in ATTACHMENT A be reaffirmed.

LB/S3/359  
ATTACHMENT A  
29 January 1993

The three (3) standards listed below are proposed for reaffirmation by S3:

- 1)   ○    ANSI S3.13-1987   Mechanical Coupler for Measurement of Bone Vibrators.
- 2)   ○    ANSI S3.18-1979   Guide for the Evaluation of Human Exposure to Whole-Body Vibration.
- 3)   ○    ANSI S3.26-1981   Reference Equivalent Threshold Force Levels for Audiometric Bone Vibrators.



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**S3/368**  
**ATTACHEMNT P-1**

10 May 1993

TO: J.D. Royster, Chair S3

Re: Letter Ballot LB/S3/366 sent to the Accredited  
Standards Committee S3 on 24 March 1993, and closed  
on 5 May 1993

---

SUBJECT: Approval of the withdrawal of one S3 Standard, ANSI S3.26-1981  
Reference Equivalent Threshold Force Levels for Audiometric  
Bone Vibrators

---

Enclosed please find tally of the above letter ballot, showing results  
as follows:

## CLASSIFICATION OF MEMBERS

|                   |       |                       |       |
|-------------------|-------|-----------------------|-------|
| AFFIRMATIVE VOTES | 14    | P - PRODUCER          | 4     |
| NEGATIVE VOTES    | 0     | C - CONSUMER          | 7     |
| ABSTENTIONS       | 4     | G - GOVERNMENT        | 4     |
| NOT RETURNED      | 4     | GI - GENERAL INTEREST | 7     |
|                   | ----- |                       | ----- |
| TOTAL             | 22    | TOTAL                 | 22    |



- 2 -

Letter Ballot S3/366

Continuation of results of letter ballot S3/366:

AFFIRMATIVE VOTES:

|                  |  |
|------------------|--|
| Atack, R.M.      | U.S. Army Medical Corps.                                     |
| Brownson, P.J.   | American College of Occupational Medicine                    |
| Burkard, R.F.    | American Speech-Language-Hearing Association                 |
| Frank, T.        | Acoustical Society of America                                |
| Garinther, G.    | U.S. Army Human Engineering Laboratory                       |
| Hopmeier, W.F.S. | National Hearing Aid Society                                 |
| Mayer, M.S.      | AT&T   |
| Michael, L.A.    | American Academy of Otolaryngology<br>Head and Neck Surgery  |
| Michel, G.C.     | Bruel & Kjaer Instruments, Inc.                              |
| Naunton, R.F.    | American Otological Society, Inc.                            |
| Nixon, C.        | U.S. Dept. of the Air Force                                  |
| Page, J.         | U.S. Dept. of the Navy,<br>BUREAU OF MEDICINE AND SURGERY    |
| Patterson, J.H.  | U.S. Army Aeromedical Res. Lab.                              |
| Toothman, E.H.   | Fastener Industry Noise Control<br>Research Program (FINCRP) |

NEGATIVE VOTES:

NONE

ABSTENTIONS:

|                       |   |
|-----------------------|---|
| Bovi, A.M.            | Industrial Safety Equipment Association, Inc. |
| Brown, M. (Alternate) | Power Tool Institute, Inc.                    |
| Campbell, R.          | Audio Engineering Society, Inc.               |
| Conger, C.D.          | Hearing Industries Association (HIA)          |

- 3 - Letter Ballot S3/366

Continuation of results of letter ballot S3/366:

NOT RETURNED:

|                 |   |
|-----------------|---|
| Addington, J.H. | Compressed Air and Gas Institute                  |
| Bohl, C.D.      | American Industrial Hygiene Association           |
| Burnett, E.D.   | National Institute of Standards and<br>Technology |
| Zagzebski, J.   | American Institute of Ultrasound<br>in Medicine   |

LATE RESPONSE:

NONE

Avril Brenig  
Standards Manager

cc: Vice Chair, Standards Committee  
Chair and Vice Chair, ASACOS



# ACOUSTICAL SOCIETY OF AMERICA

S3/368  
ATTACHMENT P-4

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APPROVAL OF: the withdrawal of one S3 Standards,  
ANSI S3.26-1981 Reference Equivalent Threshold  
Force for Audiometric Bone Vibrators

LETTER BALLOT NO: LB/S3/366  
DISTRIBUTION DATE: 3/24/93  
FOLLOW-UP DATE: 4/24/93  
DUE DATE: 5/05/93  
CLOSED: 5/05/93  
VOTING MEMBERS: S3

SENT TO STANDARDS COMMITTEE: S3

| NAME             | GROUP REPRESENTED  | DATE    | CC* | YES | NO | ABS-<br>TAIN | NOT<br>RET'D | COMM<br>ENTS |
|------------------|--|---------|-----|-----|----|--------------|--------------|--------------|
| Addington, J.H.  | Compressed Air and Gas<br>Institute                              | .....   | P   |     |    |              | X            |              |
| Atack, R.M.      | U.S. Army Medical Corps.   | 4/05/93 | G   | X   |    |              |              |              |
| Bohl, C.D.       | American Industrial Hygiene<br>Association                       | .....   | C   |     |    |              | X            |              |
| Bovi, A.M.       | Industrial Safety Equipment<br>Association, Inc.                 | 5/03/93 | P   |     |    | X            |              |              |
| Brown, M.        | Power Tool Institute, Inc.<br>(Alt. for Bennett)                 | 4/15/93 | GI  |     |    | X            |              |              |
| Brownson, P.J.   | American College of<br>Occupational Medicine                     | 4/02/93 | GI  | X   |    |              |              |              |
| Burkard, R.F.    | American Speech-Language-<br>Hearing Association (ASHA)          | 4/02/93 | C   | X   |    |              |              | X            |
| Burnett, E.D.    | National Institute of<br>Standards and Technology                | .....   | GI  |     |    |              | X            |              |
| Campell, R.      | Audio Engineering Society,<br>Inc.                               | 3/29/93 | C   |     |    | X            |              |              |
| Frank, T.        | Acoustical Society of<br>America (Alt. for Royster)              | 4/06/93 | GI  | X   |    |              |              |              |
| Garinther, G.    | U.S. Army Human<br>Engineering Lab.                              | 4/13/93 | G   | X   |    |              |              |              |
| Hopmeier, W.F.S. | National Hearing Aid Society                                     | 4/06/93 | C   | X   |    |              |              |              |
| Mayer, M.S.      | AT&T (Alt. for Sachs)  | 4/06/93 | GI  | X   |    |              |              |              |
| Michael, L.A.    | American Academy of<br>Otolaryngology H&N Surgery<br>(Alternate) | 4/06/93 | C   | X   |    |              |              |              |
| Michel, G.C.     | Bruel & Kjaer Instruments,<br>Inc.                               | 4/02/93 | P   | X   |    |              |              |              |

\*CC-Classification

| NAME            | GROUP REPRESENTED   | DATE    | CC* | YES | NO | ABS-<br>TAIN | NOT<br>RET'D | COMM<br>ENTS |
|-----------------|---|---------|-----|-----|----|--------------|--------------|--------------|
| Naunton, R.F.   | American Otological Society, Inc.                         | 4/05/93 | GI  | X   |    |              |              |              |
| Nixon, C.       | U.S. Department of the Air Force                          | 4/12/93 | G   | X   |    |              |              |              |
| Page, J.        | U.S. Department of Navy, BUREAU OF MEDICINE AND SURGERY   | 5/03/93 | G   | X   |    |              |              |              |
| Patterson, J.H. | U.S. Army Aeromedical Research Laboratory                 | 5/03/93 | C   | X   |    |              |              |              |
| Rogin, C        | Hearing Industries Association (HIA) (Alt. for Conger)    | 3/31/93 | P   |     |    | X            |              |              |
| Toothman, E.H.  | Fastener Industry Noise Control Research Program (FINCRP) | 4/02/93 | C   | X   |    |              |              |              |
| Zagzebski, J.   | American Institute of Ultrasound in Medicine              | .....   | GI  |     |    |              | X            |              |

FINAL RESULTS:

|    |              |
|----|--------------|
| 14 | YES          |
| 0  | NO           |
| 4  | ABSTAIN      |
| 4  | NOT RETURNED |
| 22 | TOTAL        |

CLASSIFICATIONS:

|                       |   |
|-----------------------|---|
| P - PRODUCER          | 4 |
| C - CONSUMER          | 7 |
| G - GOVERNMENT        | 4 |
| GI - GENERAL INTEREST | 7 |



# ACOUSTICAL SOCIETY OF AMERICA

S3/368  
ATTACHMENT P-6

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IMMEDIATE RETURN REQUESTED

LB/S3/366  
24 March 1993

Return to: Letter Ballot Department  
Due date: 5 May 1993

## ADMINISTRATIVE LETTER BALLOT ACCREDITED STANDARDS COMMITTEE ON BIOACOUSTICS, S3

Topic: Approval of the withdrawal of one S3 Standard, ANSI S3.26-1981 Reference Equivalent Threshold Force Levels for Audiometric Bone Vibrators

Approved by: J.D. Royster, Chair S3

Distributed by: A. Brenig, ASA Standards Manager

Reference Document(s):

ATTACHMENT A Memorandum from T. Frank, Vice Chair S3, dated 30 October 1992

### Background Information:

Section 4.4 of the ANSI Procedure for Development and Coordination of American National Standards requires that each complete American National Standard (including its supplements and addenda) be reviewed at least every five years to determine whether it should be reaffirmed, revised or withdrawn. Provision is made for extensions of time, except that no extension is granted beyond ten (10) years from the date of approval by ANSI.

The Chair of the S3 Committee, J.D. Royster, recommends that ANSI S3.26-1981 Reference Equivalent Threshold Force Levels for Audiometric Bone Vibrators be WITHDRAWN because it has been superseded by ANSI S3.43-1992 Standard Reference Zero for the Calibration of Pure-Tone-Bone Conduction Audiometer. Please note that this standard was recommended for reaffirmation via letter ballot LB/S3/359 dated 29 January 1993. This letter ballot LB/S3/366 recommending the withdrawal of ANSI S3.26-1981, as per the recommendations given in ATTACHMENT A, supersedes the earlier ballot dated 29 January 1993.

## COMMITTEE CORRESPONDENCE

Tom Frank, Ph.D.  
110 Moore Building  
Penn State University  
University Park, PA 16802

Date: October 30, 1992  
To: J.D. Royster, Ph.D., Chair, Committee S3-Bioacoustics  
From: T. Frank, Ph.D. *T. Frank*  
Subject: S3/WG43 Activities, Recommendations for ANSI S3.13 and S3.26-1981

Sometime ago Don Dirks requested that he be replaced as chair of WG43-Method for Calibration of Bone Conduction. In turn, you requested that I assume the chair of the WG/43 and I accepted. Since then, I sent a letter (dated 9/21/92; your received a copy) to the members of WG/43 (E. Corliss, D. Dirks, S. Lybarger, W. Olsen, L. Wilber, & S. Gilman). The intent of the letter was to: (a) advise committee members that Don had resigned and that I replaced him as chair, (b) to obtain a ballot vote concerning reaffirmation of ANSI S3.13 and withdrawal of S3.26 (recall, this was recommended by D. Dirks), and (c) to determine if committee members would still be interested serving on WG/43.

The following recommendations are made as a result of the ballot vote of WG43 members.

1. ANSI S3.13-1987 [Revision of ANSI S3.13-1972] should be reaffirmed. The vote was 5 yes, 0 no, 1 non-vote (Gilman did not respond).
2. ANSI S3.26-1981 (R-1990) should be withdrawn. The vote was 5 yes, 0 no, 1 non-vote (Gilman did not respond).

I was very happy to learn that E. Corliss, D. Dirks, S. Lybarger, W. Olsen, and L. Wilber would like to continue as members of WG/43. As such, they should be listed as current members of WG/43. Since I did not receive a response from S. Gilman, I will make every effort to contact him to see if he wishes to continue on WG/43 and let you know his decision.

As a result of WG/43's efforts, ANSI S3.43 (description of reference levels for bone conduction) is now standard. However, as pointed out by L. Wilber and D. Dirks, the information provided in S3.43 should really be contained in S3.6 so that the specification of reference hearing levels for both air and bone conduction are in one document. Consequently, I agree with L. Wilber and D. Dirks, that the next revision of S3.6 should include the S3.43 bone conduction values. This would eliminate the need for S3.43.

cc: A. Brenig, WG/43 Committee Members



# ACOUSTICAL SOCIETY OF AMERICA

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**S3/368**  
**ATTACHMENT Q-1**

14 March 1993

TO: J.D. Royster, Chair S3

Re: Letter Ballot LB/S3/356 sent to the Accredited  
Standards Committee S3 on 18 December 1993, and  
closed on 29 January 1993

---

SUBJECT: Approval of Officers and Individual Experts, and U.S. TAG  
Chairs for 1993/1994

---

Enclosed please find tally of the above letter ballot, showing results  
as follows:

## CLASSIFICATION OF MEMBERS

|                   |       |                       |       |
|-------------------|-------|-----------------------|-------|
| AFFIRMATIVE VOTES | 18    | P - PRODUCER          | 5     |
| NEGATIVE VOTES    | 0     | C - CONSUMER          | 8     |
| ABSTENTIONS       | 0     | G - GOVERNMENT        | 4     |
| NOT RETURNED      | 4     | GI - GENERAL INTEREST | 5     |
|                   | ----- |                       | ----- |
| TOTAL             | 22    | TOTAL                 | 22    |

- 2 -

Letter Ballot S3/356

Continuation of results of letter ballot S3/356:

AFFIRMATIVE VOTES:

|                  |  |
|------------------|--|
| Addington, J.H.  | Compressed Air and Gas Institute                             |
| Atack, R.M.      | U.S. Army Medical Corps.                                     |
| Bennett, J.L.    | Power Tool Institute, Inc.                                   |
| Bohl, C.D.       | American Industrial Hygiene Association                      |
| Bovi, A.M.       | Industrial Safety Equipment Association, Inc.                |
| Brownson, P.J.   | American College of Occupational Medicine                    |
| Burkard, R.F.    | American Speech-Language-Hearing Association                 |
| Campell, R.      | Audio Engineering Society, Inc.                              |
| Garinther, G.    | U.S. Army Human Engineering Laboratory                       |
| Hopmeier, W.F.S. | National Hearing Aid Society                                 |
| Marshall, L.     | U.S. Dept. of the Navy,<br>BUREAU OF MEDICINE AND SURGERY    |
| Michel, G.C.     | Bruel & Kjaer Instruments, Inc.                              |
| Naunton, R.F.    | American Otological Society, Inc.                            |
| Nixon, C.        | U.S. Dept. of the Air Force                                  |
| Royster, J.D.    | Acoustical Society of America                                |
| Sachs, R.M.      | AT&T   |
| Toothman, E.H.   | Fastener Industry Noise Control<br>Research Program (FINCRP) |
| Zagzebski, J.    | American Institute of Ultrasound<br>in Medicine              |

NEGATIVE VOTES:

NONE

ABSTENTIONS:

NONE



- 3 - Letter Ballot S3/356

Continuation of results of letter ballot S3/356:

NOT RETURNED:

|                 |   |
|-----------------|---|
| Burnett, E.D.   | National Institute of Standards and<br>Technology           |
| Conger, C.D.    | Hearing Industries Association (HIA)                        |
| Michael, L.A.   | American Academy of Otolaryngology<br>Head and Neck Surgery |
| Patterson, J.H. | U.S. Army Aeromedical Res. Lab.                             |

LATE RESPONSE:

|               |   |
|---------------|---|
| Bennett, J.L. | Power Tool Institute, Inc.                      |
| Zagzebski, J. | American Institute of Ultrasound<br>in Medicine |

Avril Brenig  
Standards Manager

cc: Vice Chair, Standards Committee  
Chair and Vice Chair, ASACOS  
Chair, Working Group



# ACOUSTICAL SOCIETY OF AMERICA

S3/368  
ATTACHMENT Q-4

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IMMEDIATE RETURN REQUESTED

LB/S3/356  
18 December 1992

Return to: Letter Ballot Department  
Due date: 29 January 1993

**ADMINISTRATIVE LETTER BALLOT**  
**ACCREDITED STANDARDS COMMITTEE**  
**ON BIOACOUSTICS, S3**  
**AND U.S. TECHNICAL ADVISORY GROUP (TAG) FOR**  
**IEC/TC 29 ELECTROACOUSTICS AND ISO/TC 43 ACOUSTICS**  
**AND ISO/TC 108/SC4 HUMAN EXPOSURE TO MECHANICAL**  
**VIBRATION AND SHOCK**

Topic: Approval of Officers and Individual Experts, and U.S. TAG Chairs for 1993/1994

Approved for circulation by: J.D. Royster, Chair S3

Distributed by: A. Brenig, ASA Standards Manager

Reference Document(s): ATTACHMENT A - Lists officers, Individual Experts for S3 and U.S. TAG Chairs for parallel international groups

Background Information:

According to ANSI's procedures, under which the Accredited Standards Committees operate, the Officers of the Standards Committees are to be confirmed (at the beginning of their terms), as well as Individual Experts (the latter to be confirmed annually) by the respective Standards Committees.

The officers and Individual Experts are proposed by the ASA Committees, on Standards (ASACOS) as the Secretariat for the Standards Committees, in concert with the Chairs of the respective Standards Committees.

No change in S3 Officers is proposed for 1993/1994. The list of Officers and Individual Experts is attached for your consideration for confirmation. The ASA representatives to S3 for 1993/1994 are listed for your information.

ATTACHMENT A

S3 ACCREDITED STANDARDS COMMITTEE ON BIOACOUSTICS

S3 Appointments

| <u>Position</u>            | <u>Individual</u> | <u>TERM</u> |
|----------------------------|-------------------|-------------|
| Chairman                   | J.D. Royster      | 1991-1994   |
| Vice Chairman              | T. Frank          | 1992-1995   |
| ASA Representative         | J.D. Royster      | 1993-1994   |
| Alt. ASA Representative    | T. Frank          | 1993-1994   |
| <u>Individual Experts:</u> | J.R. Bareham      | 1993-1994   |
|                            | S.J. Barry        | 1993-1994   |
|                            | R.W. Benson       | 1993-1994   |
|                            | K.M. Eldred       | 1993-1994   |
|                            | J.L. Fletcher     | 1993-1994   |
|                            | R.S. Gales        | 1993-1994   |
|                            | W.J. Galloway     | 1993-1994   |
|                            | R.M. Guernsey     | 1993-1994   |
|                            | J.C. Guignard     | 1993-1994   |
|                            | D.L. Johnson      | 1993-1994   |
|                            | K.D. Kryter       | 1993-1994   |
|                            | H. Levitt         | 1993-1994   |
|                            | S.F. Lybarger     | 1993-1994   |
|                            | R.L. McKinley     | 1993-1994   |
|                            | W. Melnick        | 1993-1994   |
|                            | H.E. von Gierke   | 1993-1994   |
|                            | D.E. Wasserman    | 1993-1994   |
|                            | L.A. Wilber       | 1993-1994   |
|                            | W. Yost           | 1993-1994   |
|                            | R.W. Young        | 1993-1994   |

ATTACHMENT A

S3 ACCREDITED STANDARDS COMMITTEE ON BIOACOUSTICS  
S3 Appointments

U.S. TAG Chairs:

| <u>Position</u>        | <u>Individual</u> | <u>Term</u> |
|------------------------|-------------------|-------------|
| ISO/TC 43              | H.E. von Gierke   | 1993-1994   |
| ISO/TC 43 (Vice Chair) | P.D. Schomer      | 1993-1994   |
| IEC/TC 29              | V. Nedzelnitsky   | 1993-1994   |
| ISO/TC 108/SC4         | H.E. von Gierke   | 1993-1994   |

S3/368  
ATTACHMENT R

Excerpt from letter from D. Stevens  
of Lucas Industrial Instruments to  
J. Seiler, dated 13 April 1993

The general opinions of the audiometer manufacturers were that there could be an EMS problem with audiometers, and that it shouldn't be a problem to screen them against interference in a superior way. However, most of these people couldn't really envisage RFI problems occurring.

A more fundamental point was raised by one company though. They felt that audiometers were not acoustical measurement instruments, but were "Auditory systems testing devices". This is backed up by the fact that the 1989 "Specification for audiometers" was written by the Standards committee S3 Bioacoustics. After further checking, it does seem that audiometers fall under S3 Bioacoustics, and not S1. I have been told that there is a group of audiometry specialists working on Audiometry brainstem measurements, which utilizes fine sensors attached to the skin. RFI is a problem to this form of measurement, and they are investigating anechoic rooms, etc. in order to improve and standardize the technique.

S3 COMMITTEE CORRESPONDENCE

Julia D. Royster, Ph.D.

Chair, Accredited Standards Committee S3, Bioacoustics  
4706 Connell Drive, Raleigh, NC 27612

May 19, 1993

Avril Brenig, Dr.P.H.  
Standards Manager  
Acoustical Society of America  
335 East 45th Street  
New York, NY 10017-3483

Dear Dr. Brenig:

I have attached a letter from Tom Frank, Vice-Chair of S3, concerning a proposal for a new working group on sound field audiometry. His letter includes a suggested scope statement. The rationale for the proposed new work effort is as follows:

- a. as documented in a recent journal article ["Status of sound field audiometry among audiologists in the United States" by G.D. Rochlin, Journal of the American Academy of Audiology 4:59-68 (1993)] clinical practitioners are following a variety of different procedures for sound field audiometry, so standardization is needed, and
- b. defined values for thresholds of normal hearing as measured in a sound field are needed as input for future revisions of existing standards S3.1 and S3.6.

A chair has volunteered (see Frank's letter) to head a new working group on this topic, and John Franks has expressed interest in serving on the working group, if established.

Please prepare a ballot for voting members of S3 proposing the establishment of a new working group concerning sound field audiometry.

Thanks for your assistance.

Sincerely,

  
Julia D. Royster

cc: Tom Frank

**S3 COMMITTEE CORRESPONDENCE**

**Tom Frank, Ph.D.  
Vice-Chair, S3  
5-A Moore Building  
Penn State University  
University Park, PA 16802  
Phone: 814/863-2006; FAX 814/863-3759**

**Date:** April 29, 1993  
**To:** J.D. Royster, Chair, S3-Bioacoustics Committee  
**From:** T. Frank, Vice-Chair, S3-Bioacoustics Committee  
**Subject:** Establishing a Working Group for Sound-Field Audiometry

There is a need to establish a Working Group (WG) to develop a standard for Sound-Field Audiometry. The need has been determined by informal contacts, requests from audiologists, and the results of a recent journal article.

As such, I would recommend that a S3 WG be organized under the name "Sound-Field Audiometry." Further, I would recommend that the scope of the WG be "to develop a standard specifying parameters for sound-field audiometry, instrumentation and tolerances for measuring stimuli presented in a sound-field, and reference threshold values for the measurement of hearing."

Further, I would like to recommend that the Tomasz R. Letowski, Ph.D. be appointed as chair of the WG. Dr. Letowski has indicated to me that if he is asked to become the WG chair, he will accept the appointment. Dr. Letowski can be contacted at the following address.

**Tomasz R. Letowski, Ph.D.  
5-B Moore Building  
Department of Communication Disorders  
Penn State University  
University Park, PA 16802  
Phone: 814/863-2018; FAX: 814/863-3759**